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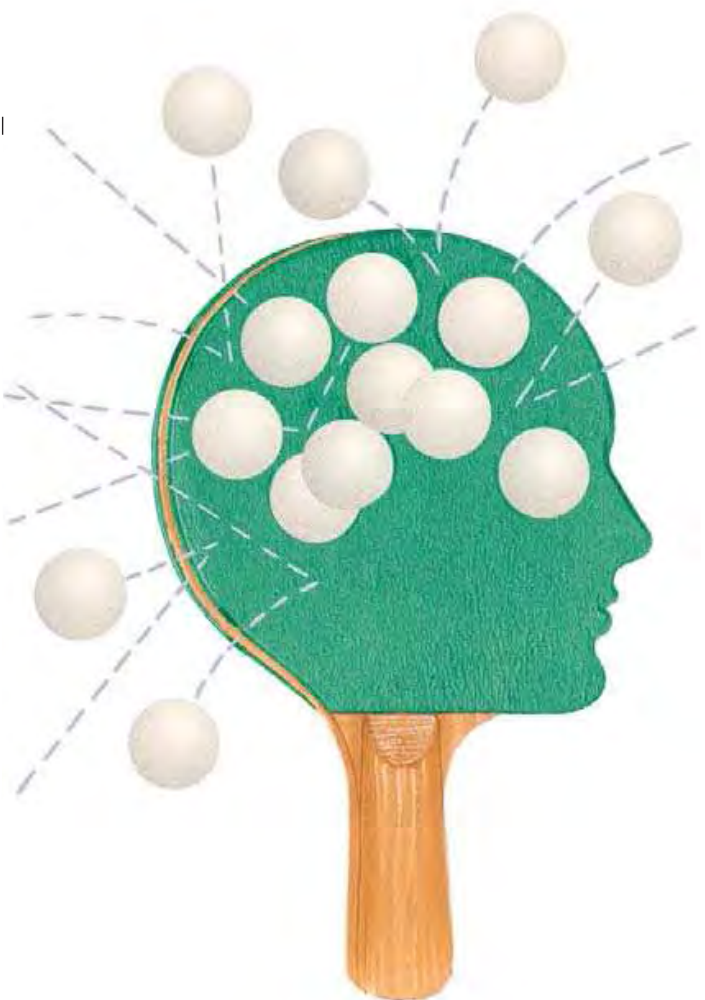
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June 2007



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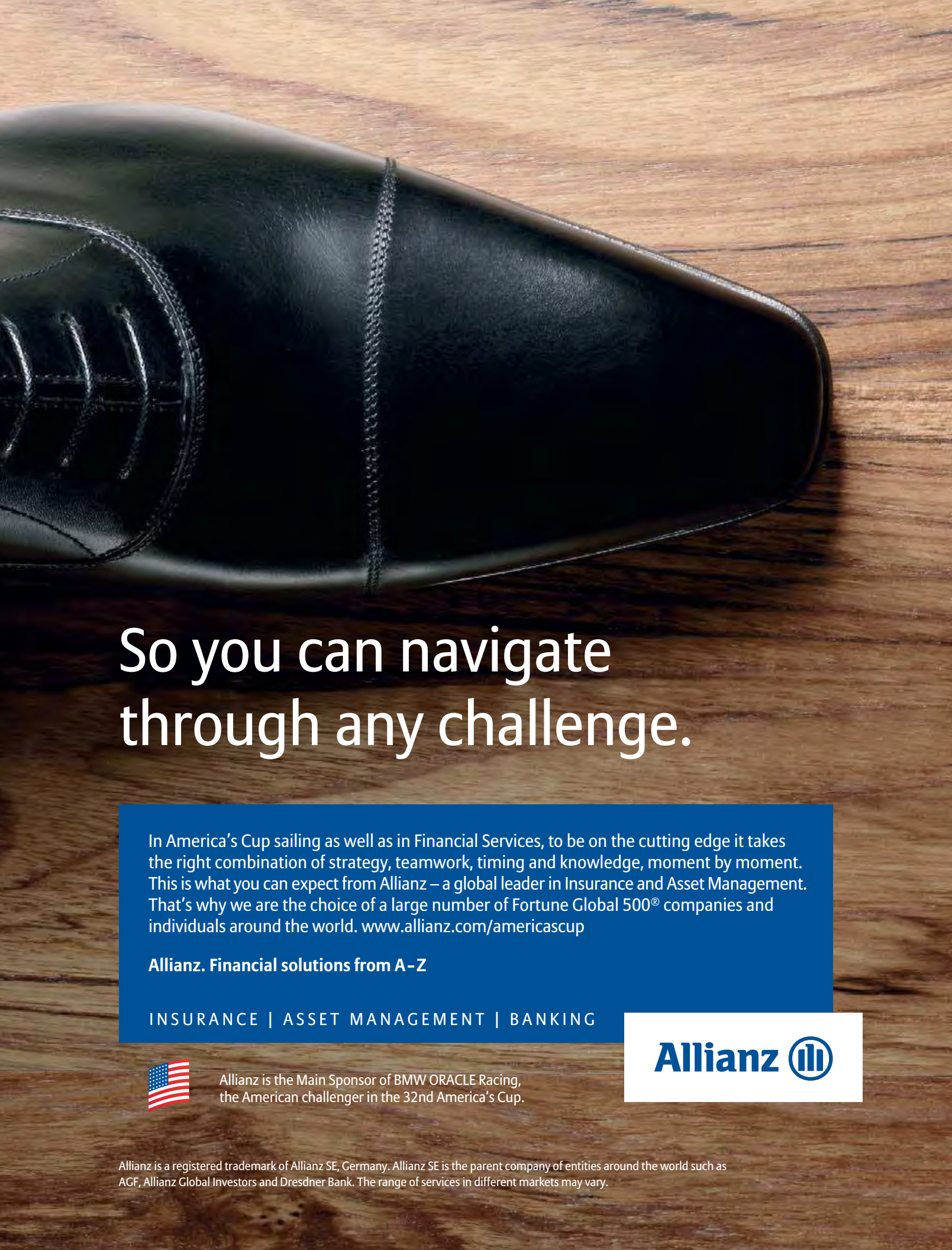
550i equipped with a 360-hp 8-cylinder power plant, the heart and soul of a sports car.

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Roger Martin

Great leaders refuse to choose between A and B. Through holistic thinking, they forge an innovative third way.

68 Make Your Company a Talent Factory

Douglas A. Ready and Jay A. Conger

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78 Companies and the Customers Who Hate Them

Gail McGovern and Youngme Moon

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Elizabeth Economy and Kenneth Lieberthal

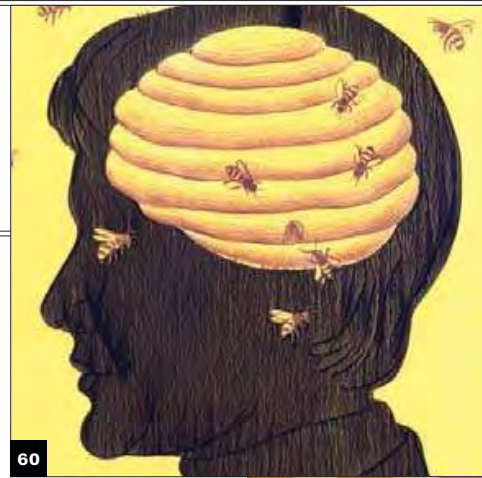
China's environmental problems are so bad they're beginning to constrain the country's GDP growth. Why, then, are multinationals paying so little attention to them? Failure to factor environmental issues into corporate strategy may turn China's seemingly enormous promise into a nightmare for many firms.

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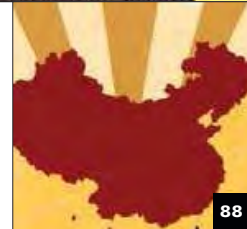
Yves L. Doz and Mikko Kosonen

Consumers today want integrated solutions and services – so companies need integrated strategies. These won't fly, however, as long as business units are run like fiefdoms. It's time for interdependence and collaboration at the top.

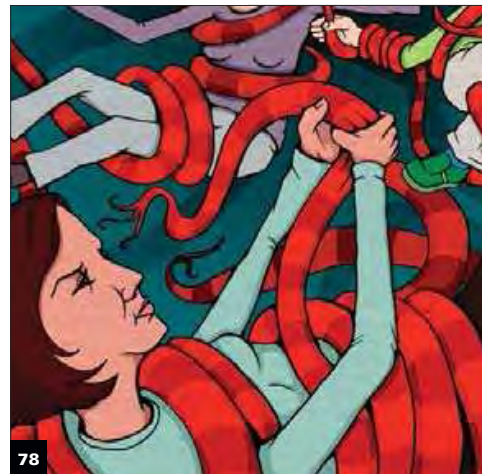
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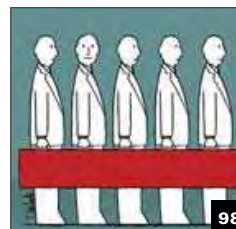
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We Googled You

Diane Coutu

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Saving the Internet

Jonathan Zittrain

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Satish Nambisan and Mohanbir Sawhney

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Morten T. Hansen and Julian Birkinshaw

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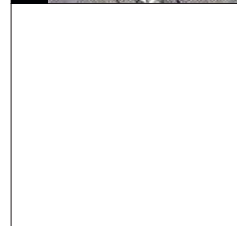
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Objective Selection

Don Moyer

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GO TO HBR.ORG, AND YOU'LL NOTICE SOME CHANGES. *Harvard Business Review* has rolled out the first stage of its Web site enhancements, the culmination of which will be an entirely revamped site this fall.

1. ANSWERS WHEN YOU NEED THEM

HBR Answers is a Web tool designed to help managers find answers to the questions they are asking – or should be asking – about their biggest business challenges. The editors of *Harvard Business Review* have posted several such questions – for instance, “How can my company maximize the value of its brand(s)?” – along with select HBR articles that address each one. Readers can suggest questions or topics by clicking on “E-mail Us” on the same page.

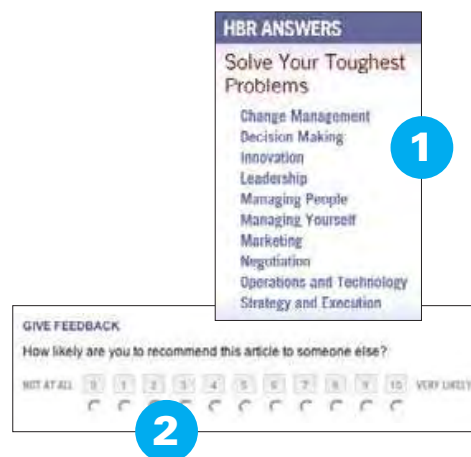
2. ARTICLE RECOMMENDATIONS

Readers can now rate HBR articles online, in the “Give Feedback” box at the bottom of the screen. The rankings are used to create the Readers’ Most Recommended Articles list, which appears both on the home page and on individual article pages.

3. FAIR USE OF INTELLECTUAL PROPERTY

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If you have any thoughts about these site changes or suggestions for future efforts, please contact the executive editor of HBR Online, Eric Hellweg, at ehellweg@hbsp.harvard.edu.



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> GLOBALIZATION RESEARCH

Professor Pankaj Ghemawat (of IESE Business School and Harvard Business School) invites HBR readers to participate in a research survey on globalization and strategy. Participants will receive a PDF of Ghemawat’s 2005 McKinsey Award-winning article, “Regional Strategies for Global

Leadership,” which discusses how companies can capitalize on regional differences.

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"He's a Power Pointer."

Scott Arthur Masear



Dreams are good.

Realities are better.

What if today were Someday?

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Good Business Judgment

THE PHRASE “good business judgment” has always seemed to me to embody a mystery. What is it? Where does it come from? Can you learn it? Can I? There are some obvious elements in the definition – someone with good business judgment would have the experience to prevent problems and the maturity to remain unflustered when they arise anyway. He or she would have the political savvy to enter a negotiation knowing where to look for a deal and would be able to anticipate how a competitor will react to a strategic move. He or she would be able to set and stick to priorities and would support them with enough resources to get the job done, but not so many as to be wasteful.

Good judgment (without “business”) implies forbearance and restraint, but good business judgment always suggests taking action, either now or before long. That is a crucial distinction. A judge in law decides between two parties but is not one of them. In business, judgment is an action and it precipitates action; the judge is a leader who is very much a participant in whatever is going on.

Roger Martin’s wonderful article “How Successful Leaders Think” digs right into the relationship between thought and action. Roger, the dean of the Rotman School of Management at the University of Toronto and formerly a partner at Monitor, has watched and counseled dozens of senior executives as they attempted to develop strategy and to separate proposals that would really work from ones that appeared plausible but would probably fail. As he studied those leaders, Roger began to notice patterns in the way they think. First, though they are men and women of action, they rarely rush into a decision. They listen widely and well – as the cliché has it, they want to find the smartest person in the room, not to be that person.

But that isn’t all. Most of us sort through choices the way we shop for shirts – sorting through a pile of possibilities, rejecting as we go, before selecting one we want. The best business thinkers don’t select or settle. They tailor: They keep all the possibilities in mind, rejecting none. They are not trying to choose among alternatives; they are trying to come



up with an idea that combines several elements – this fabric, that collar, those buttons – into something better than anything that was proposed. Good business judgment, as Roger has seen it, seems to contain equal measures of realism and idealism: the ability to acknowledge the mundane, to say, “This is what we’ve got to work with,” and make magic out of it.

...

In the past 15 years, nothing has changed the business landscape more than the development of the Internet and the rise of China. Now both environments are frighteningly polluted and in serious peril. No sane merchant

would set up shop on a street as crime-ridden as the electronic superhighway, where something like 80% of e-mail traffic is spam, “phishing” costs consumers upwards of \$2 billion a year in the U.S. alone, and companies spend untold billions to keep their computer and e-commerce systems secure. As for China, it is home to five of the world’s ten most polluted cities, the death rate from chronic respiratory illnesses is quadruple that of the United States, and 40% of the surface water is so polluted that it is unusable for any human, industrial, or agricultural purpose.

Thoughtful businesspeople cannot ignore these problems. The Net and China are simply too important. Ironically, as Jonathan Zittrain points out in “Saving the Internet,” the openness that makes the Internet valuable is also what makes it vulnerable. And as Elizabeth Economy and Kenneth Lieberthal show in “Scorched Earth,” China’s ravaged land can become the world’s most fertile soil for environmental innovation. In both places, what’s needed first is the kind of information these articles provide. What’s needed next is the kind of creative, constructive response that is the product of good business judgment.

Thomas A. Stewart

There are 193 countries in the world. None of them are energy independent.

So who's holding whom over a barrel?



Global Oil Flows

Source: Energy Information Administration

The fact is, the vast majority of countries rely on the few energy-producing nations that won the geological lottery, blessing them with abundant hydrocarbons. And yet, even regions with plenty of raw resources import some form of energy. Saudi Arabia, for example, the world's largest oil exporter, imports refined petroleum products like gasoline.

So if energy independence is an unrealistic goal, how does everyone get the fuel they need, especially in a world of rising demand, supply disruptions, natural disasters, and unstable regimes?

True global energy security will be a result of cooperation and engagement, not isolationism. When investment and expertise are allowed to flow freely across borders, the engine of innovation is ignited, prosperity is fueled and the energy available to everyone increases. At the same time, balancing the needs of producers and consumers is as crucial as increasing supply and curbing demand. Only then will the world enjoy energy peace-of-mind.

Succeeding in securing energy for everyone doesn't have to come at the expense of anyone. Once we all start to think differently about energy, then we can truly make this promise a reality.

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Projected Global Oil Demand

■ 2004 DEMAND
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■ 2030 DEMAND
115 mbpd



Source: International Energy Agency
*million barrels per day

OBJECTIVE
EFFICIENCY

ENERGY IMPORTS BY OIL EXPORTING COUNTRIES

	GASOLINE	ELECTRICITY	NATURAL GAS	COAL
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Russia	🚗	⚡		
Norway	🚗	⚡		
UAE	🚗			
Nigeria	🚗			

Source: Energy Information Administration

WHAT NEEDS TO BE DONE

- DIVERSIFY ENERGY SUPPLIES
- FIND MORE TRADITIONAL FUELS
- DEVELOP ALTERNATIVES AND RENEWABLES
- FOSTER OPEN MARKETS & TRANSPARENCY
- ENCOURAGE CONSERVATION/ENERGY EFFICIENCY

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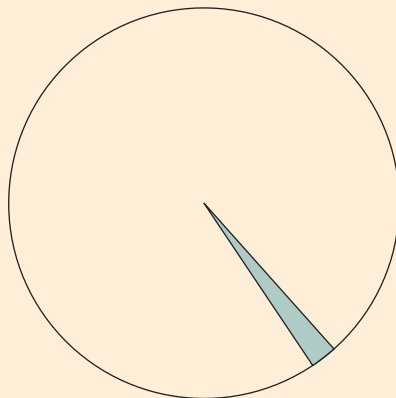
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GRIST

If You Love Your Information, Set It Free

by David Weinberger

More and more customers would rather go to Web sites that aggregate product information than to the individual company pages that generate and present the raw data. That's because aggregating information often adds value to it—especially when one type is mashed up with another, such as it is at real estate sites where crime data are mapped along with house listings or at travel sites that post each flight's on-time record.

But aggregation presents a quandary for senior executives who believe what pundits and consultants have been telling them for decades: Information is a vital organizational asset that must be tightly controlled.

Companies are often surprised to find that they benefit from having their information pooled. Setting data free broadens a firm's presence in the marketplace and lowers the cost of provid-

ing information to users. It also gives customers a better experience (travel sites, for example, compete on the basis of how easy they make it for customers to reach a good decision) and allows a company to focus on its core competencies. Meanwhile, the aggregators drive business back to the source companies.

So in most cases, companies shouldn't resist aggregation. In fact, they should make it easy for aggregators to

Ryan Snook

scoop up and disseminate their information. The airlines, for instance, provide their schedule data for free to travel sites. The real estate industry, by contrast, has fought aggregation, despite the benefits to the field. Propsmart, a real estate site, collects property listings through a cumbersome process known as “scraping.” Software analyzes publicly available real estate Web sites and tries to figure out which part of the text is a zip code, which is a price, and which is a phone number. Even though Propsmart’s listings provide free marketing of available properties and send customers back to the originating agents, Propsmart regularly battles cease and desist orders from real estate companies.

In the long run, resistance to aggregators is futile. Somewhere, undoubtedly, a couple of kids are sitting in a dorm room figuring out how to aggregate and disseminate your firm’s data. Executives should therefore make sure that aggregation works to the advantage of their company, their customers, and the firm’s other stakeholders.

The key is to understand that meta data – information about information – drives aggregation. Think of the label that indicates to a doctor that the 40 on the patient’s chart is her age, not her pulse rate or her IQ. Metadata lets search engines sort by relevancy, allowing, for instance, dating sites to bring the right couples together. Companies can facilitate the aggregation process by providing the appropriate metadata and by doing so in a standard – or at least predictable – format. You wouldn’t want an aggregation site to mistake your product’s serial number for its price.

Even if the information is represented accurately, however, aggregation can have a downside. When products are listed side by side with other companies’ offerings, the competitive differentiators simply may not show up (the aggrega-

tor may display the prices but not, for example, customers’ satisfaction with product support). Eventually, aggregated data will become far richer, because the aggregators will respond to competition by offering all the relevant differentiators.

Of course, if a company has already achieved genuine dominance in its industry, it can put up technical and even legal barriers to aggregators precisely so it won’t have to enter into the competitive fray. Such tactics may work, but they will ultimately stifle the market and be a disservice to customers.

David Weinberger (self@evident.com) is a fellow at Harvard Law School’s Berkman Center for Internet & Society, in Cambridge, Massachusetts, and the author of *Everything Is Miscellaneous: The Power of the New Digital Disorder* (Times Books, 2007).

Reprint F0706A

STRATEGY

Which Levers Boost ROI?

by Margeaux Cvar and John A. Quelch
Despite their fixation on performance, CEOs often don’t know which levers to pull in what order to improve ROI. An intuitive trial-and-error approach may work over time, but that’s not a method financial markets usually reward.

A rational strategy can come only from understanding how similar companies in other industries have increased their return on invested capital. Such outside industry comparisons tend to be beyond a CEO’s comfort zone, but looking to companies that are facing the same environmental conditions is essential to generating new insights and avoiding the mere replication of competitors’ tactics.

As a first step, a company’s VP of strategy should identify a range of busi-

nesses with similar structural characteristics. These should include variables such as fixed capital, market concentration, and industry growth. Several large, recently compiled databases, containing year-by-year profile information on thousands of businesses across multiple industries and continents, can help companies spot comparable businesses. In our research and consulting work, we have used one such proprietary database that includes measures of 35 variables.

After identifying parallel businesses, the VP should separate the high performers (firms with an ROI that is two standard deviations above the mean) from the low performers (those with an ROI that is two standard deviations below the mean). Next, the VP should look at variables that the firm can control more readily, such as the number of customers and suppliers, vertical integration, product-line innovation and breadth, relative product quality, working capital, and employee compensation levels. The VP should also identify, through regression analysis, how important each variable is in explaining differences in ROI across the businesses. For example, such an analysis might show that employee compensation was higher at leading companies than at lagging ones and that variations in compensation accounted,



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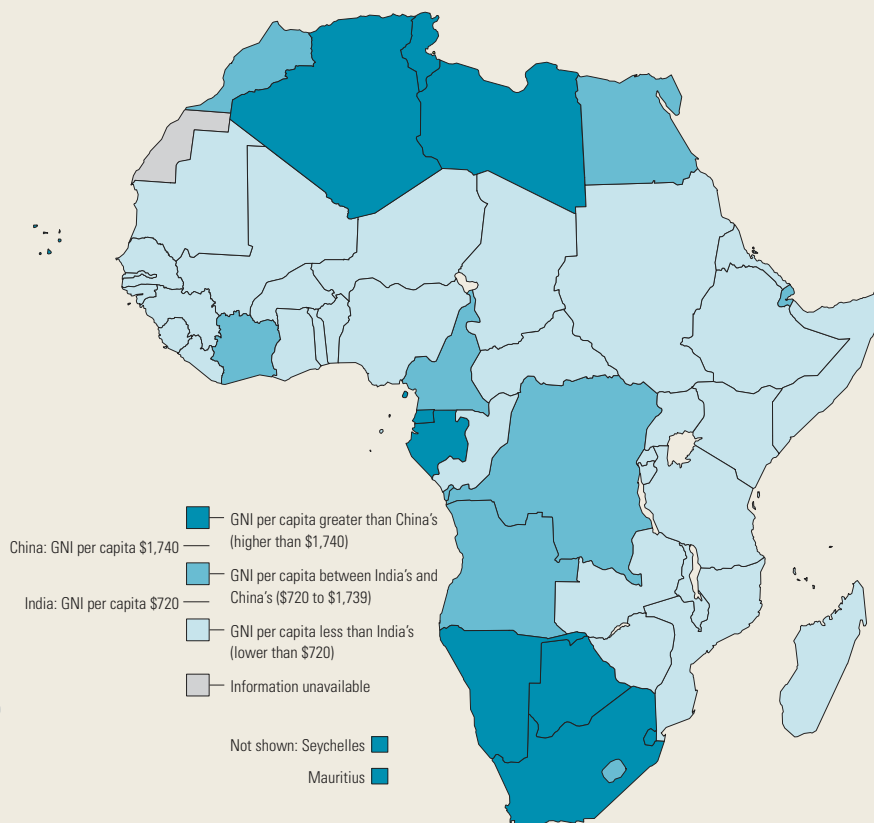
The Wealth of African Nations

by Vijay Mahajan

Africa has some of the poorest nations in the world, but it is wealthier across the continent than India. The average gross national income (GNI) per capita across all 53 African nations in 2005 was about \$954, more than \$200 higher than India's. As the map illustrates, 12 African nations (with 100 million people among them) out of 53 had a GNI per capita that was greater than China's. Twenty nations (with a combined population of 263 million) had a GNI per capita that was greater than India's. That concentration of wealth represents a huge potential market for companies worldwide. Of course, serving this market means overcoming the myriad economic, political, legal, medical, and social challenges facing the continent. But businesses across Africa have already proved that this is possible, feeding a fast-growing demand for every conceivable type of consumer good and service, from cell phones to banking to televisions. Africa is defying its image as a charity case, prompting entrepreneurs and entrepreneurial businesses to invest in it as they presciently did in India two decades ago.

Vijay Mahajan (vijay.mahajan@mcombs.utexas.edu) is the John P. Harbin Centennial Chair in Business at the McCombs School of Business at the University of Texas at Austin. His latest book, on emerging consumer markets in Africa, is scheduled to be published by Wharton School Publishing in 2008.

Reprint F0706C



on average, for 10% of the difference in ROI between high and low performers. The VP can then identify which variables his or her own company should manipulate through tactical changes to boost ROI and estimate the level of associated improvement.

We used that approach to identify three ways a golf ball manufacturer we worked with could boost its ROI, and this resulted in about a 70% gain (from an ROI of 33% to an ROI of 57%). First, the company noted that the businesses with the highest ROI were far less vertically integrated than it was. The manufacturer, in fact, had been extruding the rubber for its golf balls in-house, an operation that accounted for 70% of its cost of goods. By outsourcing its rubber extrusion, we calculated, the firm could boost its ROI by ten points.

Second, the manufacturer observed that companies with strong ROI generated higher average revenue per trade customer. Because it was a leading brand, the company had long disavowed private-label production. However, our analysis indicated that increasing private-label production to 30% of sales – which would concentrate the customer base (half as many customers as before would represent 50% of sales) and enable a reduction in sales force – could boost ROI by nine more points.

Third, the golf ball company had been investing 15% of its sales in R&D, a rate twice as high as that of the comparable companies with superior ROI, yet its product line was 20% narrower. We found that trimming R&D to 8% of sales and broadening the product line to parity with competitors could increase ROI by five percentage points.

Doing this type of objective analysis can give CEOs a new, data-driven way to calibrate their strategic options, without requiring them to hire a team of expensive consultants. It can help CEOs – and, equally important, prospective acquirers and Wall Street bankers – determine not only what a business is worth but what it could be worth.

Margeaux Cvar is the founder and CEO of the Cvar-Von Habsburg Group in New York. **John A. Quelch** (jquelch@hbs.edu)

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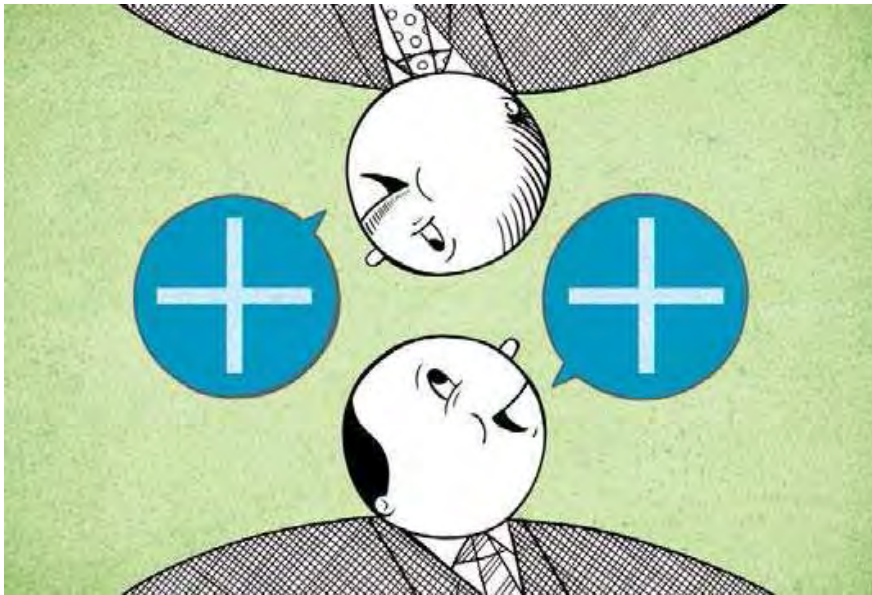
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MARKETING VERSUS FINANCE

Reconcilable Differences

by Jonathan Knowles and Richard Ettenson
Marketing and Finance have a famously fractious relationship, with each accusing the other of failing to understand how to create value. That tension may seem to be dysfunctional, but when channeled right, it can actually be productive.

Marketers see value creation as an externally oriented activity focused on the demand side: satisfying customers' needs and desires. Marketing's role, according to this calculus, is to maximize the ratio of the perceived benefits the company offers through its goods and services and the price paid by the customer. In other words, making sure customers feel they're getting value for their money.

By contrast, finance managers see value as something that's derived primarily from the supply side. To them, value creation is an internally oriented activity focused on minimizing the production and delivery costs needed to support a given level of revenue and requires the

return on investment to be demonstrated for all costs.

Who's right? They both are, of course. Superior business performance requires striking a healthy balance between customer value and cost structure. The goal is neither to maximize customer benefit – which would entail giving away your product – nor to minimize costs in isolation but rather to optimize the relationship between the two. Marketing and Finance both have important insights to offer, so the goal is to manage the tension between them, not to eliminate it.

Finance needs to take a cue from Marketing (and behavioral economics) and accept that people make choices based on utility, not just financial considerations. Peter Drucker articulated this decades ago when he said "What the customer buys and considers value is never a product. It is always a utility, that is, what a product or service does for him." Hard as it may be for many finance managers to appreciate, intangibles such as relevance, status, belonging, and gratification can be powerful and predictable drivers of customer decisions. Finance managers must develop models that explicitly connect marketing-related intangibles – the nonmonetary dimensions that customers will pay for – to profitable changes in customer behavior. By asking Marketing to put the expected impact of its investments in intangibles into concrete terms (for example, by

estimating the anticipated number of new customers that would be acquired during a certain time frame), Finance can analyze and discuss marketing expenditures in relation to specific performance criteria while acknowledging that quantifying customer behavior is an inexact science.

This is not a concession on the part of the financial manager; it's a smart and effective way to deal with investments that have potentially large but uncertain pay-offs. Financial analysis is there to assist managers in making informed judgments when things are uncertain.

In a similar vein, despite their focus on customer value, marketing managers must develop an appreciation for Finance's interest: shareholder value. Marketers rarely incorporate the perspective and language of Finance when communicating the value their activities deliver to the organization. They often fail to recognize that the measures of value they find important – things like customer awareness, preference, brand equity, and loyalty – don't translate easily for finance types.

Marketers may not be able to put a definitive dollar figure on brand equity (though some are trying), but they can consciously frame the impact of their activities in terms of the objectives they share with finance: delivering organic growth, increasing cash flow and profits, and reducing earnings risk. Brands that sustain a price premium boost profitability. Brands that customers trust are more easily extended, aiding growth. Loyal customers reduce earnings volatility, because they don't churn. When Marketing expresses its goals in those terms, it sublimates the tension between the two disciplines into a valuable debate about Marketing's impact on profit, growth, and risk.

Marketers shouldn't act like finance professionals, and vice versa. But they should be on speaking terms and know how to communicate and collaborate effectively with each other. If these two groups can't speak each other's language, neither will be able to maximize its value to customers, shareholders, or the organization.



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Jonathan Knowles (j.knowles@type2consulting.com) is the founder and CEO of Type 2 Consulting in New York. **Richard Ettenson** (ettenson@t-bird.edu) is an associate professor of global marketing at the Thunderbird School of Global Management in Glendale, Arizona. Reprint F0706D

TRAINING

Employees Get an Earful

by Anders Gronstedt

Randall Gressett, an EMC technology executive, uses his video iPod to catch up on company news while flying home from meetings with clients. "After a long day, it's nice to watch a video instead of reading some white paper or going to headquarters for a training session," he says. He's not alone: Worldwide, thousands of sales representatives for the data storage giant are watching five-minute whiteboarding sessions from EMC experts on their video iPods or listening to audio podcasts during their morning commutes.

Portable media players, including video-enabled phones, have rapidly become mainstream tools for internal business communications. EMC cranks out five to ten internal audio podcasts and two to three vodcasts (video podcasts)

every week; IBM employees, who can choose from more than 5,000 podcast "episodes," have surpassed 2 million downloads. National Semiconductor recently equipped all of its 8,500 employees with top-of-the-line video iPods at a cost of \$2.5 million. "The loudest demand is coming from our international constituencies," says Jan Hellie, a senior manager with National Semiconductor. "If our employees in Asia had their way, everything would be delivered on the mobile device."

At companies that use internal podcasting or vodcasting, employees don't have to stop working to learn, and they can make productive use of their downtime. People can listen while driving to client meetings or watch while waiting in airports. For those who don't mind blurring the line between free time and work, podcasts enable constructive intrusions into commuting, walking the dog, or running on the treadmill. As part of the training for engineers who are learning to service the company's largest full-color production machine, Xerox offers instruction via video iPods.

Gressett says there has been a decisive shift: Training is now going to the employees, rather than the other way around. "I want all my product marketing training delivered with podcasting," he says. "I don't want to fly in for another

training session unless it's absolutely necessary."

Anders Gronstedt (anders@gronstedtgroup.com) is the president of the Gronstedt Group, a global marketing and training firm based in Broomfield, Colorado, and the author of *The Customer Century* (Routledge, 2000). Reprint F0706E

CORPORATE CULTURE

Help Newly Hired Executives Adapt Quickly

by Michael D. Watkins

The main reason why newly hired outside executives have such an abysmal failure rate (40%, according to one study) is poor acculturation: They don't adapt well to the new company's ways of doing things. In fact, some three-quarters of 53 senior HR managers I surveyed cited poor cultural fit as the driver for onboarding failures.

Acculturation tends to get little attention from employers because it's a difficult problem to quantify. But my research indicates that companies can do a lot to help senior-level hires avoid cultural missteps. In particular, there are some key areas where they can help hires find the right approach.

Alteration versus assimilation.

Many newly hired executives are set up to fail because they've been led to believe they have more of a mandate for change than they really do. Robert Nardelli, who abruptly resigned as chairman and CEO of Home Depot earlier this year, was a manufacturing guy from the top-down culture of GE who had been hired into the decentralized culture of Home Depot, in part to instill discipline (the alteration expectation). But he didn't know how to balance that goal with maintaining the best elements of the company's entrepreneurial spirit (failure to assimilate).

Process versus relationships.

In some organizational cultures, it's important for a newly hired executive to know the right people to advance his or her agenda. In others, it's all about

Getting started in internal podcasting.

- **If you're concerned about the initial investment, start small.** Podcasts can be recorded and produced with free software. For better quality, they can be developed by off-site professionals and recorded in a sound studio.
- **Pilot the initiative with the audience that will be most receptive** – for example, field reps.
- **Promote the podcast idea to employees** (just because you've built it doesn't mean they'll come).
- **Use a format employees will enjoy.** Most successful podcasts sound more like radio shows than like classes.
- **Keep the episodes short.** Research by EMC shows that 15 minutes is ideal for podcasts, whereas vodcasts are typically around five minutes.
- **Encourage feedback.** Most successful podcasts live on a social platform such as an internal blog.
- **Encourage all employees to produce their own shows,** turning podcasting into a platform for collaboration, community building, and knowledge management.

continued on page 30



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Conversation

ECONOMIST PAUL ORMEROD ON STRATEGY AND EXTINCTION

Set Up to Fail



In his recent book *Why Most Things Fail*, theoretical economist Paul Ormerod argues that failure is the defining characteristic of biological, social, and economic systems. But Ormerod, a former economic forecaster and now principal of Volterra, the London-based consulting firm he cofounded, doesn't think that's a bad thing. Giving in to chance, expecting failure, and reacting flexibly, he says, is essential to success.

How is the evolution of companies and species the same?

Usually comparisons between biological systems and social organizations are framed in terms of competition, survival of the fittest, and patterns of success. In my research, I looked at what I think is the most fundamental similarity between biological systems and business: failure. The fact is, 99.99% of all species that have ever lived are now extinct. And, like species, most firms fail. On average, more than 10% of all companies in America disappear each year. How many of the world's 100 largest industrial companies in 1912 were still in the top 100 in 1995? Nineteen.

What's similar about the patterns of extinction in species and in firms?

If you look at extinctions of species over millions of years and extinctions of companies over the past century, you'll see that they both occur periodically rather than continuously. That is, you'll see the sudden extinction of many species or companies followed by a period with few extinctions, followed by another burst of extinction. What's more, the mathematical relationship between the number of extinctions that occur in a given period and how often groups of extinctions of a given size occur is the same, whether you're talking about organisms or companies. For example, large extinctions of species happen with the same relative frequency as large extinctions of companies.

Companies consciously design and execute strategy and so presumably direct their own evolution.

Are you saying strategy doesn't matter?

No. But I am saying that executives overestimate the control they have over the fate of their organizations. If you think of a spectrum of influence in an economic

system – say, an industry or regional economy – you'd imagine that the economist's "rational man," who has access to all information and makes smart, strategic decisions, would be at one end, and some mindless biological entity, simply mutating at random and proceeding without strategy, would be at the other. In terms of their influence on outcomes, executives are much closer to the biological entity than to the rational man.

So a carefully planned strategy will be no more successful than a randomly evolving strategy?

That may be true. For example, most people forget that the success of Windows was a fluke. When Windows 1.0 was introduced in 1985, it bombed. It was too big a program to run well on most computers. The Windows support team at Microsoft was cut back to three people. Meanwhile, Microsoft was totally focused on developing OS/2 with IBM. Microsoft then launched Windows 2.0, and it bombed. Windows was almost abandoned. But, of course, Windows 3.0 took off. I'd say Windows dominates desktops today because of a series of early accidents, not due to a carefully planned strategy.

If most companies are doomed to fail, and outcomes of strategy can't be predicted, how can companies improve their odds?

They can start by abandoning business advice that takes the form of "Ten ways to beat the competition," since it's impossible to predict the outcome of a given strategy. If there really were ten rules, everyone would follow them and succeed. Companies should embrace the inherent randomness that drives success and failure and that no amount of cleverness or information can overcome. The companies that are most able to explore and innovate – something akin to random mutation – and then rapidly and flexibly adapt when an innovation succeeds or fails, will do best. I know the New Coke story is told too often, but it's relevant here. Coke reacted rapidly and flexibly to the disaster, abandoning its meticulously crafted strategy. Imagine if Coke had stuck rigidly with its plan because that was its carefully considered, predetermined strategy?

– Gardiner Morse
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understanding proper procedure. At both GE and Johnson & Johnson, goals are set via rigorous planning processes, but the companies differ on implementation, with GE executives going through specified procedures and J&J leaders relying more on relationships. Several leaders I've observed have moved from GE to Johnson & Johnson, and I've noticed that they tend to get themselves into trouble with implementation: They wrongly assume that because the companies have similar goal-setting processes, they have parallel corporate cultures as well.

Team players versus stars. New leaders always have to get early wins to build momentum. But the way they go about it is just as important as the successes themselves. The right approach depends on the company; some have a collective culture, while others reward stars for getting things done.

There are other cultural dynamics companies can flag for new executive-level hires. Some firms have what I call a strong corporate immune system – they attack anything that doesn't "belong" – while others are more welcoming. Some companies see meetings as places for dialogue on tough issues; others view meetings as places for ratifying decisions that have been made in premeeting discussions. Some manage conflict openly; others do it covertly or not at all. Some put no limits on how executives may achieve results; others are more restrictive.

A company can assist its newly hired executives by evaluating all those aspects of its organizational culture and then being explicit about them and about the behaviors it expects. This information should be incorporated into any "Getting Things Done at Our Company" material that may be handed out to new executive hires. It's also important for companies to gather insights from former outsiders who have assimilated successfully; managers who have grown up in an organization often don't realize they even have a culture. I have seen failure rates decline to less than 10% at client organizations as a result of companies' use of systematic acculturation and transition acceleration.

Whatever the program, the new hire should be brought into it rapidly, before he or she has a chance to make the gaffes that might undermine a brilliant career in the new company.

Michael D. Watkins (mwatkins@genesisadvisers.com) is the cofounder of Genesis Advisers, a leadership development consultancy based in Newton, Massachusetts, and the author of *Shaping the Game: The New Leader's Guide to Effective Negotiating* (Harvard Business School Press, 2006). He also writes the Leading Edge blog for Harvard Business School Publishing at <http://discussionleader.hbsp.com/watkins>.

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ORGANIZATIONAL CHARACTER

To Thine Own Staff Be Agreeable

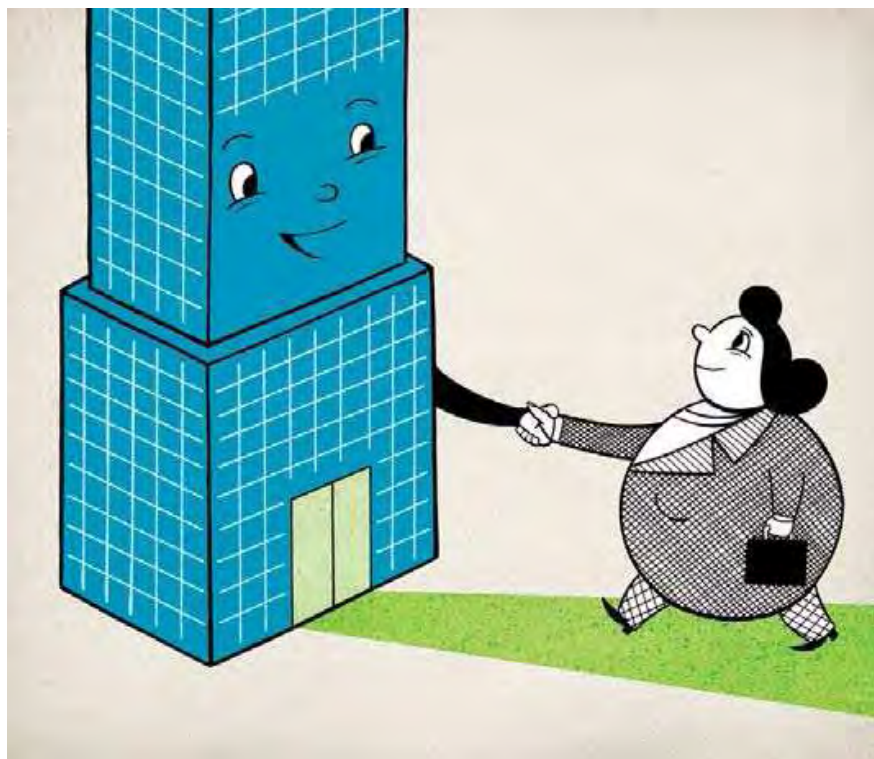
by Gary Davies and Rosa Chun

If you invest in improving your employees' views of your firm's corporate character, those positive attitudes will rub off and boost customers' opinions of the company. That will drive growth.

It sounds simple, but too many organizations focus on what customers

think – to the exclusion of what employees think. In field interviews with 4,700 customers and employees of 63 businesses, we discovered that service companies (or business units within them) are on average more likely to be growing (in terms of sales) if employees' opinions of the company are *better* than customers'. Similarly, sales are more likely to be falling if customers think better of the firm than workers do.

When we study employees and customers, we use a technique that's designed to get to the heart of how people feel about businesses: We ask them to imagine that the organization they work for or patronize has come to life as a human being and to rate its corporate character on a number of qualities, such as friendly, pleasant, open, straightforward, and concerned. We then group those characteristics into different categories. The qualities we've just listed make up the agreeable category. (Some of the other categories are enterprising, chic, and ruthless, but we won't get into those in this article.) The characteristics and categories are derived from earlier work that we and others have conducted on corporate culture, reputation, and branding.



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Our research shows two things: Employee and customer views strongly correlate, indicating that the former influences the latter; and year-on-year sales growth positively and significantly correlates with the size of the gaps between employee and customer views. The more the staff's view outshines the customers', the greater the sales growth, because, we believe, employee views tend to transfer to customers through the aptly termed process of emotional contagion. (Think of body language, facial expression, and the time it takes for an employee to notice the patron.)

The apparent effects of this contagion were brought home to us when we helped a department store chain determine why, after one of its stores had been refurbished at great cost, sales growth wasn't meeting expectations. We found that the renovation had done nothing for staff members; their restrooms remained drab, and the stockrooms were even smaller than before. The employees' attitude affected shoppers. A customer we interviewed explained perceptively, "The refurbishment has been a face-lift. The spirit remains unchanged."

Our research focuses on service businesses, but other types of companies should take heed, too. Internet sites where disaffected employees and annoyed customers gripe about corporations have become vectors for spreading ill will. Moreover, reports of corporate crises leak quickly into the media, often revealing a company's true character and giving the lie to years of slick marketing and corporate communications.

So how do you create a corporate character that employees will respond to positively? Our recent study of people working for four companies shows that employee ratings of a firm's agreeableness are influenced by the perceived quality of both training and management and by how much autonomy workers have. Investing in these areas makes sense not just because employee motivation is important but also because improving how workers see your corporate character is key to improving how your customers see you.

Gary Davies (gary.davies@mbs.ac.uk) is a professor of corporate reputation and **Rosa Chun** (rosa.chun@mbs.ac.uk) is a professor of business ethics and social responsibility at Manchester Business School in England. They are coauthors, with two colleagues, of *Corporate Reputation and Competitiveness* (Routledge, 2003). Reprint F0706H

LOYALTY

Work with Me

by Simon J. Bell and Andreas B. Eisingerich
Is it better for a service company to cultivate a mystique about its expertise or to let clients into the kitchen?

While virtually all firms say they're committed to educating clients, we've seen many skimp on execution, closely guarding black-box methodologies. Some organizations consider client education a waste of time; others believe, as Theodore Levitt wrote in a 1980 HBR article, that better-informed customers are more capable of shopping around and thus more likely to jump.

We studied more than 1,000 high-value clients of Goldman Sachs JKBW (GSJBW) in Australia and found that in one sense, Levitt was right: Increasing customers' expertise about the market for financial services does decrease loyalty. But we also found that firms can increase loyalty by providing education about how the firm works – and the latter effects outweigh the former. In other words, education has a net positive impact on client loyalty. In the year following the study, these more loyal clients tended to increase the number of accounts they held with GSJBW, spend more on brokerage, and invest more funds overall with the firm than the less loyal customers did.

We asked questions that were designed to gauge the time and effort advisers spent on educating clients. (We sifted out efforts that were perfunctory or heavily laced with sales pitches.) Higher levels of education were associated with higher levels of clients' self-reported knowledge about the financial services industry and about how the firm worked – its services and the

advisers' techniques and strategies. We also gauged the negative effect on client loyalty of market-related expertise and the positive effect of knowledge about the firm's methods and services.

The implication is that service firms should create a porous organizational boundary that allows the client at least partway into the kitchen. That might mean giving client-facing employees the time and autonomy to explain the sorts of things that customers value. For example, in retail financial services, advisers might inform clients about the logic behind the composition of a share portfolio, the nature of complex products, pricing structures, and where and when clients could be helpful – for instance, by preparing documents – in the delivery of a service. It also might mean encouraging advisers to interview clients to gain insight into their current knowledge. GSJBW provides information at varying levels of technical complexity, from plain-language research to denser technical reports for more expert clients.

Although it's impractical to separate the two types of education – it's difficult to teach clients about the workings of the firm without also teaching them about the market – companies should consciously emphasize helping clients acquire firm-specific knowledge.

GSJBW advisers noted one other type of payoff for educating clients: The more expert among its clients were far better prepared for meetings than those with less knowledge of the firm. They prepared their queries, thought about their financial goals, and brought appropriate documentation. The meetings were therefore more efficient, resulting in lower costs and greater productivity for the advisers. That helped the advisers do a better job of identifying the right investment strategies for those individuals.

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Reviews

Japan Rising

The Resurgence of Japanese Power and Purpose

Kenneth B. Pyle

(PublicAffairs, 2007)

What do the Gen X leaders now asserting themselves in Japanese business and politics have in store for their nation and the world as the century unfolds? The Heisei generation – named for the post-bubble era in which it came of age – is like no other before it, University of Washington history and Asian studies professor Kenneth B. Pyle says in his authoritative new study of Japanese politics and policy. Today's youthful leaders are more

worldly, more comfortable with globalization, and less constrained by traditional mores than their forebears were, Pyle asserts. To a greater extent than previous generations, they understand and accept the principles of democratic government.

Yet they are hardly clones of their Western counterparts. They are refining what some observers have called Japan's own communitarian form of democracy, in which individuals defer to the state in situations where demands for rights create conflict with the government.

In business, Japanese companies are successful

innovators but often follow a path that retains traditional practices. Pyle cites Toyota, which has adopted merit pay but still relies on collaborative relationships with workers and suppliers.

The Heisei generation's emerging profile – pragmatic, open to change, occasionally rebellious, but more conservative than it would seem at first glance – raises important questions about how Japan is likely to respond to today's economic and global challenges. Will it develop a unique business model to put the country's economic engine in high gear again? Will it envision a new form of coopetition with its wary and sometimes distrustful neighbors? How will it deal with North Korean nuclear power? How will it respond to the threat of global terrorism?

Pyle refrains from making predictions about such things. He provides a sweeping overview of Japanese history, analyzing the previous actions that have taken the world by surprise, including Japan's shift from feudalism to emperor worship in a matter of years and its about-face from militarism to pacifism in a span of a few months. But he hedges on the subject of the future. For example, having outlined two possible scenarios – a steady increase in trade bringing the region together and strategic rivalries devolving into border disputes and arms races – he declares that no one can tell which way things will go.

Nevertheless, Pyle's assessment of the work that awaits the Heisei generation implies that Japan's immediate future will hold more soul-searching than world shaking. For the first time in its modern history, he says, the country lacks a clear sense of direction. It's the task of today's young leaders to define a new national purpose.

– Andrew O'Connell



The Taboos of Leadership: The 10 Secrets No One Will Tell You About Leaders and What They Really Think

Anthony F. Smith

(Jossey-Bass, 2007)

The demand for solid leadership advice outstrips the supply, and the result has been a plethora of plausible theories supported by intriguing anecdotes but little deep analysis. If only executives would reduce their outsize compensation, stop playing favorites, show some vulnerability, improve their work/life balance, and diligently groom their successors, their organizations would be far more effective.

Smith, an executive coach, offers a provocative counterpoint. Leadership, he says, still depends on projecting authority and confidence, and that inevitably necessitates self-centered people who screen out the rest of life, manipulate colleagues to get to the top, delight in privilege, and instinctively resist any talk of replacements. Everyone knows that managing the egos of other people is an important executive role, so why should we expect leaders' own egos to disappear? The book is far too sketchy to be convincing, but it's a useful call for leadership advocates to balance their natural optimism with realism.

The Shock of the Old: Technology and Global History Since 1900

David Edgerton

(Oxford University Press, 2007)

It's hard to resist being excited about new technologies, but here's a sobering analysis: Edgerton, a British historian, describes the march of progress according to what people actually used, not what everyone talked about. We're reminded that every new technology coexists with a variety of often quite serviceable alternatives and that only slowly, if at all, does the new device change practice. More important, some advances can actually increase our reliance on old-fashioned approaches: For decades, mechanization boosted the demand for animals – harvesters forced American farmers to buy bigger mule teams, for instance. Once automobile production ramped up in the twentieth century, it surpassed bicycle output worldwide, but the trend has reversed since the 1970s as workers in poor countries have earned more discretionary income. Memo to managers: Keep old technologies in mind as you calculate the impact of the next big thing.

– John T. Landry

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We Googled You

Hathaway Jones's CEO has found a promising candidate to open the company's flagship store in Shanghai. Should a revelation on the Internet disqualify her now?

by **Diane Coutu**

THE WIND WAS HOWLING and relentless as Fred Westen opened the door and called upstairs to tell his wife that he was home. While he waited for her to come down, he poured himself a shot of whiskey, tilting the decanter with his left hand. In his right he grasped the morning's *Wall Street Journal*. The CEO of the luxury apparel retailer Hathaway Jones wanted to hear his wife's reaction to a story.

Martha Westen walked almost languorously down the stairs. She went to the kitchen, poured herself a cup of tea, strolled into the living room, and nestled in her favorite chair by the fire. Fred handed her the paper and directed her attention to the front page. There she found an article about how an insurer had rejected a woman's claim for disability because of chronic back pain, based on information the company had obtained from her psychologist's notes.

Martha shook her head. "It gets worse every day," she shuddered as she envisioned a future in which everyone's medical records were posted online. "Even our thoughts aren't private anymore." At 58, Martha didn't pretend to be an expert on shared

HBR's cases, which are fictional, present common managerial dilemmas and offer concrete solutions from experts.

online content or anything else to do with the Internet. All her information was limited to what she read in the popular press.

Which was just enough to keep her up at night.

"It's what I keep on telling you, Fred. There are no secrets now, and we're just going to have to learn how to live with that."

Martha fell silent, staring moodily at the flickering fire. Fred was almost relieved when the telephone rang. He jumped up to grab the receiver.

At the other end of the line was John Brewster, Fred's old roommate at Andover and now a stringer for a number of U.S. newspapers in Shanghai. Although the two had not stayed close after prep school, they still exchanged Christmas letters and called each other occasionally. The men spent a few minutes catching up and then John eased the conversation around to his daughter, Mimi.

Now in San Francisco, Mimi had heard that Fred planned to expand the Philadelphia-based Hathaway Jones into China, and she wanted to be part of the move. Fred hadn't seen her since she was a teenager, but he remembered her as poised and precocious in the way that expatriate kids often are. John asked Fred if he would meet with her. "She's a terrific gal," his old friend promised, "a real mover and shaker."

"I look forward to seeing her again," Fred said honestly. "Just have her contact my assistant."

The Candidate

A month later, on the other side of the country, Mimi Brewster was admiring herself in the bedroom mirror. As she stared at her reflection, a trace of a smile brightened her face. It wasn't a smile that Mimi would let everyone see, but it communicated the satisfaction she felt with her life. With her bobbed black hair and Manolo Blahnik shoes,

Mimi felt that she was right on track. Not quite 30, she was already the kind of person who made people sit up and take notice.

"You look terrific; he'll be as wild about you as I am," Mimi's boyfriend, Chandler, said as he rolled over in bed, unable to hide his continuing infatuation with Mimi. "He'd be nuts not to hire you."

Mimi agreed with Chandler. She had grown up in China, and she spoke both Mandarin and a local dialect. Although she had been an average student, her profile had won her admission to some top colleges, including two Ivy League schools. She eventually plumped for Berkeley, where her father had gone. There she'd majored in modern Chinese history and graduated cum laude.

**"It gets worse every day.
Even our thoughts aren't
private anymore."**

She had parlayed her college experience into numerous job offers, finally accepting a position at a management consultancy, where she got the broad business exposure she wanted. Her career in motion, she applied to an MBA program two years later, choosing Stanford over Harvard because she felt that it was closer to the buzz. She was recruited after graduation by the West Coast regional office of Eleanor Gaston, the largest clothing, shoes, and accessories company in the United States. There, for the past four years, she'd shown a sharp eye for the capricious fashion tastes of the young, newly rich people in search of something to do with their dot-com money. Now, with two successful brand relaunches behind her, she was looking for some general management experience, preferably in a fast-growing market like China.

Mimi walked over to the bed, sat down, and kissed Chandler playfully on the lips. "Don't waste the day chatting

with your Facebook friends," she told him. "You've got to take Patapouf to the vet." Mimi's Siamese cat was famously ill-tempered, but he had attitude, and Mimi warmed to that. She picked up Patapouf and gave him a hug.

Abruptly, she stood, straightened her Hathaway Jones interview suit, and said good-bye. All business now, she grabbed her bag, her BlackBerry, and her keys and ran out to catch the flight to Philadelphia.

Bullish on a China Shop

Fred left the house at 5:30 AM every day for his office at 1 Constitution Road. He had a lot of work to do, and there was not a moment to waste. Despite sales of \$5 billion in 2006, Hathaway Jones had fallen on hard times. Four years ago, the privately owned U.S. retail chain had recruited Fred because of his imposing credentials and a lifetime's experience of working with luxury brands and had charged him with waking up the company's sleepy, conservative stores.

It hadn't been easy. Though aggressive outsourcing to suppliers in Mexico for some of the chain's lower-tier brands had helped bring the company's margins closer to industry standards, that was just a start. An avid consumer of his firm's marketing research, Fred knew that the company's image was getting old fast. Younger people across the United States, where Hathaway Jones had 144 shops and outlets, wanted more affordable clothing, with more flair. The trend was starting to show up in declining numbers for the company's high-priced – some said stodgy – designer clothes. Plans for radically revamping the company's image and product line were in the offing.

Fred's biggest bet, however, was to elbow in on China's luxury goods market, which was growing by 70% a year. He had earmarked millions of dollars to open new stores in three of the largest cities, including Beijing and Guangzhou, with the flagship in Shanghai, China's wealthiest and most cosmopolitan city.

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With the plans in place, Fred was focused on selecting a winning team. “I wonder what Mimi’s like now?” he asked himself, eyeing her CV. “Maybe there’s a way I can fit her in. Doing a friend a favor and banking on a rising star – who knows? This could be a twofer.”

The First Impression

Mimi was Fred’s last appointment of the day. “C’mon in!” he boomed, embracing her and inviting her to take a seat on the couch. Mimi looked around the corner suite and glanced at a lithograph of Hathaway Jones’s first store, a draper’s shop in Philadelphia. “You’re the spitting image of your mother,” Fred said, settling into his soft leather chair. “Tell me how she’s doing.”

Mimi relayed how after almost 30 years of painting portraits, her mother had taken up fashion photography to capitalize on China’s unprecedented interest in image and celebrity. “It’s amazing how much appetite the new middle class has for fashion,” Mimi commented. “Right,” Fred said, adding that Chuppies – China’s yuppies – couldn’t seem to get their hands on luxury goods quickly enough. “Absolutely!” she said, a little too abruptly. “Everybody knows that.”

Mimi fished around for insights that would make a smart impression on Fred. She knew that on the face of it, China seemed to be all about money. “But if you talk to senior executives in the big cities,” she reported intelligently, “Confucianism comes up in every conversation.” She said that the Chinese wanted to balance the intense materialism of the past two decades with some kind of spirituality and that Fred had better be prepared to deal with it.

Mimi looked him squarely in the eye. Clearly, she wasn’t expecting a handout. She wanted to be part of Hathaway Jones’s plans to expand into China because she felt she deserved to be part of those plans. Indeed, she hoped to lead the team opening the flagship store on Nanjing Road – Shanghai’s version

of Fifth Avenue. “A store is more than just the look and feel of a brand,” she said knowingly. “It’s a woman’s fashion fantasy. I can help you create a fantasy to die for.” Mimi talked about using ancient Chinese archetypes to bring the company’s brand alive, and Fred was intrigued by the pitch. “I’ll open the door for you and arrange some interviews,” he said noncommittally, “but after that, you’re on your own.”

Mimi winked. “Thanks, boss,” she said, turning on her heel, confident that she was going to be a player at Hathaway Jones.

Page Nine News

Virginia Flanders, the vice president of human resources, was a lifer at Hathaway Jones, and as a member of the old guard, she had not been invited into Fred’s inner circle. Indeed, the two of them had been at loggerheads about the way Fred brought together his top team. He ignored internal talent and downplayed the value of HR, relying overmuch, Virginia thought, on his sixth sense about who were the right people to bring on board. It was typical of the man, she reflected, that Fred spoke glowingly about Mimi after just one interview.

As she put together a file on Mimi for the staff, Virginia had to concede that the candidate’s letters of recommendation were impressive. Employers described her as aggressively creative, original, opinionated, and a risk taker – perhaps a bit brash for Hathaway Jones, Virginia thought. She rounded out the file by running a routine Google search on Mimi. The first hits turned up a restaurant owner who shared Mimi’s name. Virginia narrowed the search by adding a few parameters – Berkeley, Stanford, and Mimi’s employer.

It was Virginia’s practice to scan the first 11 pages of Google results, and on page nine she glimpsed something that might cause concern. A story in the November 1999 issue of the *Alternative Review* identified Mimi, fresh out of Berkeley, as the leader of a nonviolent

but vocal protest group that had helped mobilize campaigns against the World Trade Organization.

“That’s odd,” Virginia mused, deciding to key in “human rights” and “free trade” along with Mimi’s name. She didn’t expect to find much, but the search engine came up with several hits. It was soon clear that Mimi’s involvement had been more than just a student’s expression of defiance. One newspaper story featured a photo of Mimi sitting outside China’s San Francisco consulate protesting China’s treatment of a dissident journalist.

Virginia had just clicked on another entry when a pop-up notified her of an e-mail from Fred, canceling their meeting for later that day. Groaning inwardly, Virginia typed a short message and hit the reply button. She was going to have to talk with Fred about this straightaway.

Ex Post Facebook

Fred was in the boardroom wrapping up a meeting with the senior executive team; Virginia waited a few moments, then walked in. He knew her well enough to see that whatever she had to say to him wasn’t going to make him happy. “What’s the problem, Virginia?” he asked as he snapped his binder shut.

“I’m afraid we have something of a situation on our hands,” she began, priding herself on her ability to remain objective. “I’ve been Googling Mimi Brewster, and I think there’s something we might need to worry about.” Virginia showed Fred printouts of the half-dozen or so articles she had found. Choosing her words carefully, she pointed out that Mimi could be the kind of person who could get the company into trouble in China.

“For heaven’s sake,” Fred said, betraying his irritation. “Google anyone hard enough, and you’ll find some dirt.” Privately, however, Fred was relieved that Virginia hadn’t turned up anything more recent than eight years ago – and even more relieved that it wasn’t a pic-

ture of Mimi half naked on MySpace, which could really embarrass Hathaway Jones.

Fred's mind moved back in time, remembering the 1960s. "Let's face it," he thought a little defensively, he'd "not inhaled" just like the rest of his friends. Suddenly he felt a touch of paranoia – or was it realism? He couldn't tell.

"Let's get Mimi back in here to tell her side of the story," he said, looking up at Virginia. He knew enough about the Internet to understand that anyone could put information out there.

Virginia blinked anxiously and suggested that Fred might first want to get some feedback from the company lawyers. She explained that they were studying the legal and privacy implications of Internet searching practices in an attempt to define an appropriate

Fred put on his blinker to signal that he was turning left. He told Martha what HR had turned up about Mimi. "What am I supposed to do?" he brooded. "With everyone's sins out there on the Internet, fewer and fewer young people seem to be coming to us without any baggage." He turned on the car's defroster and loosened his tie. "Everyone is going to have to be a little more forgiving," he said.

Martha was quiet for a few minutes as she tried to process the news. She didn't think anyone was going to just forgive and forget. "Internet postings are like tattoos," she said, ending the short silence. "They never go away. Sooner or later someone else will dig up this information, and if the wrong people get hold of it, your China plans will be derailed."

"People with her credentials and references don't walk in the door of a company like ours every day. If she's swept up by the competition, there'll be hell to pay."

position for the company. "It's a bit risky letting her know that we're considering not hiring her because we Googled her," Virginia pointed out. "It might be safer just to back away before we get too involved."

"Maybe," Fred conceded, acknowledging that he might need to rethink Mimi's candidacy. "But people with her credentials and references don't walk in the door of a company like ours every day. If she's swept up by the competition, there'll be hell to pay."

The Decision Point

"Watch out!" Martha shouted as Fred ignored a yield sign and veered toward an oncoming car.

Martha and Fred were heading out for dinner in the city, but Fred's mind was a million miles away. "What's the matter?" she asked, trying not to sound intrusive. "Is it something we can discuss?"

Fred quickly glanced at her in surprise. He'd expected Martha to insist that he hire Mimi despite the discoveries.

Martha grew impatient with Fred's naïveté. The genie was out of the bottle now. He needed to put business considerations ahead of any hesitation he felt about using information that turned up on the Internet.

Fred looked away from Martha and turned the windshield wipers on high. Snow was falling fast and hard, and Fred felt strangely alone. "I don't know," he thought, flipping the argument back and forth. "The problem is that I have a responsibility to Hathaway Jones to hire the best people I can find. And how am I going to do that if I can only consider the ones who have always played it safe?"

Should Fred hire Mimi despite her online history? Four commentators offer expert advice beginning on page 42.

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FRED WESTEN should certainly follow his instinct and hire Mimi Brewster if everything else checks out. He should talk to her and tell her exactly what has come up. He has little to lose. There's no legal reason to fear searching the Internet for information about your job applicants – an issue arises only if you unlawfully discriminate against someone because of what you find. And if CEOs are looking only for people who are total saints, and who never did anything that made it onto the Web, then maybe they're hiring only uninteresting people at the end of the day. A strategy of that sort could backfire terribly: If you have nobody with chutzpah in your group, you will find yourself hurting for leaders.

There may also be another side to the story discovered by the human resources department. Digital information is extremely malleable. Anyone with a tiny bit of expertise can easily falsify it – for example, by anonymously lying about someone in a chat room and starting a rumor that catches fire and becomes a "truth." Fallacious remarks travel very, very quickly online – perhaps even faster than true information – and it is hard to track them down and expunge them. So if something that may or may not be true about a candidate is raised, it is essential to bring that person in to clarify the situation. You might also want

tain devil-may-care attitude toward things that other people would probably consider highly private – compromising photos, embarrassing conversations, and other activities that they otherwise wouldn't want their mothers to know – and they don't think twice about revealing them online. That's not going to change unless there's a radical course correction in social norms.

Given the trend, hiring standards will have to change, or you just won't be able to hire great people. That's hard for the current crop of CEOs and HR executives to understand. Most senior executives are "digital immigrants" who have not immersed themselves in the electronic culture. Baby boomers, and sometimes younger executives, are trying to work through their ambivalence toward the current generation of 20-somethings, who increasingly put negative information about themselves online. The primary difficulty for digital immigrants is that they're fighting against their own instinct, which is to pull the trigger on the digital natives. The generation gap will continue to widen until the digital natives become CEOs and HR executives themselves.

I don't have a crystal ball, so I can't tell whether the current revolution is going to turn out to be permanent or not. My guess

The primary difficulty for digital immigrants is that they're fighting against their own instinct, which is to pull the trigger on the digital natives.

to ask them to provide more references for you to check. Because online information is so easily falsified – and, plainly, so easily shared – this second level of interviewing has become increasingly important.

Presumably, Mimi didn't call up newspapers and ask them to write articles about her. But in the culture of "digital natives," there's often an intention to be public. People raised in the modern computing environment share information much more promiscuously than previous generations have. They have a cer-

tain devil-may-care attitude toward things that other people would probably consider highly private – compromising photos, embarrassing conversations, and other activities that they otherwise wouldn't want their mothers to know – and they don't think twice about revealing them online. That's not going to change unless there's a radical course correction in social norms.

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THE EVOLUTION of online media and social networking is changing the employment landscape in many subtle but fundamental ways, which most employers and candidates are only beginning to understand fully and manage effectively. One of these shifts is the practice of informally conducting at least partial online background checks of individuals prior to interviewing them.

Traditionally, a background check was not done until after an applicant had gone through a gauntlet of interviews and been selected as a finalist. And it wasn't long ago that someone with an imperfect past could move far away from his troubled history and start fresh in a new location. Today, qualified candidates can be Googled out of contention for a job before they even get a foot in the door for an interview, and it's difficult for them to leave their baggage behind even when crossing national borders, because the online community knows no boundaries.

And, of course, the fact that Chinese people are very Web oriented and know how to Google probably wouldn't help her situation.

Frankly, because retail and service businesses are so local in nature, I would hesitate to put an expatriate in the Shanghai position. Chinese employees expect their leaders to be modest and humble and see them as highly respected authority figures with parentlike attributes. A Western-style leader who doesn't understand this will face high turnover rates and low productivity levels. For all her language skills, Mimi does not strike me as a credible parent substitute for a Chinese workforce.

This case illustrates how important it is for potential employees—particularly young people who spend a great deal of time engaging in all sorts of Web 2.0 activities—to protect their reputations and think twice about the online personae they are presenting to the world. Information posted today will still

Today, qualified candidates can be Googled out of contention for a job before they even get a foot in the door for an interview.

In this case, Fred and his HR manager have taken some initial steps in the hiring process and uncovered some red flags that would cause me to sideline Mimi as a candidate for the Shanghai position. Beyond the disconcerting online revelation, former employers describe her as opinionated and brash, and in the interview with Fred, it seemed quite inappropriate for her to wink at him and call him "boss" on the way out of his office. If the job for which Mimi was interviewing were in a Western country, these concerns might not be as big a deal, but China is a unique place.

Although Mimi has some strong qualifications, her background in China is not enough to make her a good manager there. Hathaway Jones is opening its first store in Shanghai, and the firm needs a manager who can build a constructive relationship with the local government. Hiring someone without the right skills and attitudes to do so could hinder the company's ability to succeed in this market.

be available years from now and could come back to haunt them. Many new high school and college graduates don't truly understand this until they are sitting in a job interview and the HR manager opens a file that includes not only their résumé but also their latest blog entries and party photos. Online content is public information, and it is fair game for employers to ask about it.

We always recommend that candidates search the Internet to find anything about themselves that might come up in an interview, so that they can prepare to respond effectively. They should consider how they might use the Web to demonstrate attributes that would make a positive impression on potential employers. Better to fill the Internet with content that portrays you as an accomplished and capable individual who would be an asset to a new employer than to share the details from your latest weekend adventures.

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JUST CELEBRATED my ten-year blogging anniversary. I started blogging when I was 19, and before that, I regularly posted to public mailing lists, message boards, and Usenet. I grew up with this technology, and I'm part of the generation that should be embarrassed by what we posted. But I'm not – those posts are part of my past, part of who I am. I look back at the 15-year-old me, and I think, "My, you were foolish." Many of today's teens will also look back at the immaturity of their teen years and giggle uncomfortably. Over time, foolish digital pasts will simply become part of the cultural fabric.

Young people today are doing what young people have always done: trying to figure out who they are. By putting themselves in public for others to examine, teens are working through how others' impressions of them align with their self-perceptions. They adjust their behavior and attitudes based on the

can we be surprised that attention-seeking teens reveal all? Not all teens want this kind of attention, but cultural norms have shifted, and the Web has become both a place for friends and a space to seek attention.

So, what does all this imply for the company in this case? Many young people have a questionable online presence. If Hathaway Jones doesn't want to hire these people, it'll miss out on the best minds of my generation. Bright people push the edge, but what constitutes the edge is time dependent. It's no longer about miniskirts or rock and roll; it's about having a complex digital presence.

Naturally, there'll always be a handful of young people who manage to go through adolescence and early adulthood without any blemishes on their record. Employers need people who play by the rules, but they also need "creatives." Mimi is a creative, and for the job Fred is trying to fill, a traditionalist just

If Hathaway Jones doesn't want to hire people like Mimi, it'll miss out on the best minds of my generation.

reactions they get from those they respect. Today's public impression management is taking place online.

Once again, adults are upset by how the younger generation is engaging with new cultural artifacts; this time, it's the Internet. As with all moral panics around teenagers, concern about who might harm the innocent children is coupled with a fear of those children's devilish activities. To complicate matters, many contemporary teens are heavily regulated and restricted while facing excessive pressures to succeed. The conflicting messages adults convey can be emotionally damaging.

What is seen as teens' problematic behavior can also be traced back to the narratives that mainstream media sell to teens – including the celebrity status given to Paris Hilton and Lindsay Lohan. Thanks to a number of complex social factors, narcissism is on the rise. Narcissists seek fame. Reality TV shows tell teens that full exposure is a path to success, so how

won't do. Fred should listen to his own instincts and hire Mimi. I'd advise him to open a conversation with her immediately so that they can strategize together about how to handle potential challenges posed by employees' online practices.

I think Fred will learn a lot from that experience. My generation isn't as afraid of public opinion as his was. We face it head-on and know how to manage it. We digitally document every love story and teen drama imaginable and then go on to put out content that creates a really nuanced public persona. If you read just one entry, you're bound to get a distorted view. That's why I would also advise Mimi to begin creating her own Google trails. She should express her current thoughts on China, reflecting on how she has fine-tuned her perspective over the years. Part of living in a networked society is learning how to accessorize our digital bodies, just as we learn to put on the appropriate clothes to go to the office.

AS FRED HAS told his VP of human resources, if you Google anyone hard enough you'll find some dirt. This is the new reality. Companies don't want to go on record about Googling candidates, but everybody's doing it. Your CV is no longer what you send to your employer – it's the first ten things that show up on Google. I'm 28, and I'm part of a generation that doesn't even go on a second date without Googling the other person.

In light of the widespread use of Internet searching practices, Hathaway Jones will have trouble hiring Mimi. The job is high-profile enough, and the online content about her is sensitive enough for Chinese decision makers, that there is absolutely no question the information will be discovered and noted – even if it appears only on page nine of Google's results. Then people will write more about it on the Internet, and the community will take heed. Given the climate of the times, Mimi presents a risk to Hathaway Jones.

In this case, Mimi didn't publish the content herself, and she is powerless to pull it from the Web. These are newspaper articles. Even our company, which was set up to search for and destroy unwanted online information, wouldn't try to remove

Mimi doesn't have to wear the postings like an albatross around her neck for the rest of her life, though. There are several things she can – and should – do if she's serious about a business career in China. For example, she could consider publishing stories about globalization on a home page that she creates, or joining an online discussion forum about China and the World Trade Organization. In these public forums, Mimi can explain that she had many political and social interests when she was younger. If her opinion has matured, she can repudiate her earlier view by explaining on the Internet that she believes the world is more complex than she understood it to be when she was 21.

The lesson to be learned from her experiences – and it is a lesson for CEOs as well as for job candidates – is that you need to know what is being said about you online. A person's reputation has always been shaped not only by what she makes known about herself but also by what other people say about her. Now, however, what other people say reaches a far wider audience than ever before. Ten years ago, if someone spread a rumor that you had herpes, it probably wouldn't get too far. Today, all it takes is one enemy to put something



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You need to know what is being said about you online. Today, all it takes is one enemy to put something anonymously on the Internet and everyone will see it.

newspaper stories. That would be bad constitutional practice, and what's more, in almost every case, we would fail. The Internet loves newspapers; it can take a very long time to move an item from page one on Google to page two.

Mimi should have disclosed the newspaper articles to Fred when they first met. She's smart enough to know that her opinions about China and globalization could affect the company's performance there. By taking this information to Fred before HR did, she would have been able to exert some control over how the story played out.

anonymously on the Internet, and everyone will see it, whether it is true or false. Don't tell me that it wouldn't have an enormous impact on your emotional and professional well-being. Some people shrug their shoulders and say that our notions of privacy are evolving. They are. But even today, I believe people have some right to privacy. It's *the* big Internet issue, which is why I'm in the business I'm in. 

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Saving the Internet

Cyberspace can be made safer from the chaos and crime that threaten to overwhelm it. But most recipes for security and order come at a very steep price: the loss of the Internet's creative potency.

by Jonathan Zittrain

THE FAMED WARNER BROS. cartoon antagonist Wile E. Coyote demonstrates a fundamental principle of cartoon physics. He runs off a cliff unaware of its ledge and continues forward without falling. The Coyote defies gravity until he looks down and sees that there is nothing under him. His mental gears turn as he contemplates his predicament. Then: Splat.

The Internet and the PC are following a similar trajectory. They were designed by people who shared the same love of amateur tinkering as the Coyote and who dealt with problems only as they arose—or left them to individual users to deal with. This “procrastination principle,” together with a design premised on contributions from anyone who cared to pitch in, have caused the Internet and PC to emerge from the

realms of researchers and hobbyists and to win out over far more carefully planned and funded networks and information appliances.

The runaway successes of the Internet and PC with the mainstream public have put them in positions of significant stress and danger. Though the Internet's lack of centralized structure makes it difficult to assess the sturdiness of its foundations, there are strong signals that our network and computers are subject to abuse in ways that have become deeper and more prevalent as their popularity has grown.

The core boon and bane of the combined Internet and PC is its *generativity*: its accessibility to people all over the world – people without particular credentials or wealth or connections – who can use and share the technologies'

to tempt them is found in today's "tethered appliances." These devices, unlike PCs, cannot be readily changed by their owners, or by anyone the owners might know, yet they can be reprogrammed in an instant by their vendors or service providers (think of TiVo, cell phones, iPods, and PDAs). As Steve Jobs said when introducing the Apple iPhone earlier this year, "We define everything that is on the phone. You don't want your phone to be like a PC. The last thing you want is to have loaded three apps on your phone, and then you go to make a call and it doesn't work anymore. These are more like iPods than they are like computers."

If enough Internet users begin to prefer PCs and other devices designed along the locked-down lines of tethered appliances, that change will tip

The openness that has catapulted the PC and Internet to prominence has also made them vulnerable.

power for various ends, many of which were unanticipated or, if anticipated, would never have been thought to be valuable.

The openness that has catapulted these systems and their evolving uses to prominence has also made them vulnerable. We face a crisis in PC and network security, and it is not merely technical in nature. It is grounded in something far more fundamental: the doubled-edged ability for members of the public to choose what code they run, which in turn determines what they can see, do, and contribute online.

Poor choices about what code to run – and the consequences of running it – could cause Internet users to ask to be saved from themselves. One model

the balance in a long-standing tug of war from a generative system open to dramatic change to a more stable, less-interesting system that locks in the status quo. Some parties to the debates over control of the Internet will embrace this shift. Those who wish to monitor and block network content, often for legitimate and even noble ends, will see novel chances for control that have so far eluded them.

To firms with business models that depend on attracting and communicating easily with customers online, the rise of tethered appliances is a threat. It means that a new gatekeeper is in a position to demand tribute before customers and vendors can connect – a discriminating "2" inside "B2C."

Two Generative Triumphs: Network and PC

Some brief history: The mainstream consumer network environment of the early 1990s looked nothing like today's Internet, nor did it evolve to become the Internet we have today. As late as 1995, conventional wisdom held that the coalescing global network would be some combination of the proprietary offerings of the time, services like CompuServe, AOL, and Prodigy. Yet those companies went extinct or transformed into entirely different businesses. They were crushed by a baling-wire-and-twined network built by government researchers and computer scientists, one that had no CEO and no master business plan.

The leaders of the proprietary networks can be forgiven for not anticipating the Internet's rise. Not only was there no plan for the provision of content on the Internet, there was an outright hostility toward many forms of it. The Internet's backbone, operated by the U.S. National Science Foundation, had an acceptable-use policy prohibiting commercial endeavors. For years the Internet remained a backwater, a series of ad hoc connections among universities and research laboratories whose goal was to experiment with networking. Yet what the developers made was a generative system, open to unanticipated change by large and varied audiences. It is this generativity that has caused its great – and unanticipated – success.

Consumer applications were originally nowhere to be found on the Internet, but that changed in 1991, after the Internet's government patrons began permitting personal and commercial interconnections without network research pretexts, and then ceased any pretense of regulating the network at all. Developers of Internet applications and destinations now had access to a broad, commercially driven audience. Proprietary network service providers who had seen themselves as offering a complete bundle of content and ac-

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cess became mere on-ramps to the Internet, from which their users branched out to quickly thriving Internet destinations for their programs and services. For example, CompuServe's Electronic Mall, an e-commerce service intended to be the exclusive means by which outside vendors could sell products to CompuServe subscribers, disappeared under the avalanche of individual Web sites selling directly to anyone with Internet access.

PCs likewise started off slowly in the business world (even the name "personal computer" evokes a mismatch). Businesses first drew upon custom-programmed mainframes – the sort of complete package IBM offered in the 1960s, for which software was an afterthought – or relied on information appliances like smart typewriters. Some businesses obtained custom-programmed minicomputers, and employees accessed the shared machines through dumb workstations using small, rudimentary local-area networks. The minicomputers typically ran a handful of designated applications – payroll, accounts receivable, accounts payable, and company-specific programs, such as case-management systems for hospitals or course-registration programs for universities. There was not much opportunity for skilled users to develop and share innovative new applications.

Through the 1980s, the PC steadily gained traction. Its ability to support a variety of programs from a variety of makers meant that its utility soon outpaced that of specialized appliances like word processors. Dedicated word processors were built to function the same way over their entire product lifetimes, whereas PC word-processing software could be upgraded or replaced with an application from a competitor without having to replace the PC itself. This IT ecosystem, comprising fixed hardware and flexible software, soon proved its worth.

PCs had some drawbacks for businesses – documents and other important information ended up stored across dif-

ferent PCs, and enterprisewide backup could be a real headache. But the price was right, and people entering the workforce soon could be counted on to have skills in word processing and other basic PC tools. As a round of mature applications emerged, there was reason for most every white-collar worker to be assigned a PC, and for an ever broader swath of people to want one at home. These machines might have been bought for one purpose, but their flexible architecture meant that they could quickly be redeployed for many others. A person who bought a PC for word processing might then

discover the joys of e-mail, gaming, or the Web.

Bill Gates used to describe Microsoft's vision as "a computer on every desk." That may have reflected a simple desire to move units – nearly every PC sold meant more money for Microsoft – but as the vision came true in the developed world, the implications went beyond Microsoft's profitability. Whether running Mac or Windows, an installed base of tens of millions of PCs meant that there was tilled soil in which new software could take root. A developer writing an application would not need to convince people that it was worth

Four Elements of Generativity

Four main features define generativity: (1) how strongly a system or technology leverages a set of possible tasks; (2) its adaptability to a range of tasks; (3) its ease of mastery; and (4) its accessibility. The greater the extent to which these features are represented in a system, the more readily it can be changed in unanticipated ways – and the more generative it is. For example, many tools can be leveraging and adaptable but are difficult to master – thus decreasing generativity.

Leverage. Generative systems make difficult jobs easier. The more effort they save, and the greater the number of instances in which their use can make a difference to someone, the more generative they are. Leverage is not exclusively a feature of generative systems; nongenerative specialized technologies (a plowshare, for instance) can provide great leverage for the tasks they've been designed to perform.

Adaptability. Adaptability applies to both the breadth of a system's uses without change and the ease with which it can be modified to broaden its range of uses. Adaptability is a spectrum – a technology that offers hundreds of different kinds of uses is more adaptable, and thus more generative, than a technology that offers fewer.

Ease of mastery. How easy is it for broad audiences to both adopt and adapt a technology? An airplane is neither easy to fly nor simple to modify for new purposes. Paper, on the other hand, can be readily mastered and adapted – whether to draw on or to fold into airplanes. The skills needed to use many otherwise-generative technologies may be hard to absorb, requiring apprenticeship, formal training, or long practice.

Accessibility. The easier it is to obtain the technology, tools, and information necessary to achieve mastery – and convey changes to others – the more generative a system is. Barriers to access include the sheer expense of producing (and therefore consuming) the technology; taxes and regulations surrounding its adoption or use; and secrecy or obfuscation that its producers wield in order to maintain scarcity or control.

buying new hardware to run it. He or she would need only persuade them to buy the software itself. With the advent of PCs connected to the Internet, people would need only click on the right link and new software could be installed. The fulfillment of Gates's vision significantly boosted the generative potential of the Internet and PC, opening the floodgates to innovation.

Benefits of Generativity: Innovation and Participation

Generativity is a system's capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences. As such, generativity produces two main benefits: The first is innovative output – new things that improve people's lives. The second is participatory input – the opportunity to connect to other people, to work with them, and to express one's own individuality through creative endeavors.

Nongenerative systems can grow and evolve, but such growth is channeled through their makers: Sunbeam releases a new toaster in response to anticipated customer demand, or an old proprietary network like CompuServe adds a new form of instant messaging by programming it itself. When users pay for products or services, they can exert market pressure on the companies to develop the desired improvements or changes. This is an indirect path to innovation, and there is a growing body of literature about its chief limitation: a persistent bottleneck that prevents large incumbent firms from developing and cultivating certain new uses, despite the benefits they could enjoy with a breakthrough.

For example, Columbia Law School professor Tim Wu has shown that when wireless telephone carriers control what kinds of mobile phones their subscribers may use, those phones often have undesirable features and are difficult for third parties to improve. Some carriers have forced telephone providers to limit the mobile phones' Web browsers to certain carrier-approved

sites. They have eliminated call timers on the phones, even though these would be trivial to implement and are much desired by users, who would like to monitor whether they have exceeded the allotted minutes for their monthly plan. These limitations persist despite competition among several carriers.

The reason big firms exhibit such innovative inertia, according to a theoretical framework by Clayton Christensen, is twofold: Big firms have ongoing investments in their existing markets and in established ways of doing business, and disruptive innovations often capture only minor or less-profitable markets – at first. By the time the big firms recognize the threat, they are not able to adapt. They lose, but the public wins.

For disruptive innovation to come about, newcomers need to be able to reach people with their offerings. Generative systems make this possible.

Tethered appliances cannot be readily changed by their owners, yet they can be reprogrammed in an instant by their makers.

Indeed, they allow users to try their hands at implementing and distributing new ideas and technologies, filling a crucial gap that is created when innovation is undertaken only in a profit-making model, especially one in which large firms dominate.

Consider novel forms of commercial and social interaction that have bubbled up from unexpected sources in recent years. Online auctions might have been ripe for the plucking by Christie's or Sotheby's, but upstart eBay got there first and stayed. Craigslist, initiated as a dot-org by a single person, dominates the market for classified advertising online. Ideas like free Web-based e-mail, hosting services for personal Web pages, instant-messaging software, social networking sites, and next-generation search engines emerged from individuals or small groups wanting to solve

their own problems or try something neat, rather than from firms realizing there were profits to be gleaned.

Eric von Hippel, head of MIT's Innovation and Entrepreneurship Group, has written extensively about how rarely firms welcome improvements to their products by outsiders, including their customers, even when they could stand to benefit from them (see "Customers as Innovators: A New Way to Create Value," by Stefan Thomke and Eric von Hippel, HBR April 2002). In his work, von Hippel makes the case to otherwise-rational firms that the users of their products can and often do serve as disruptive innovators, improving products and sometimes adapting them to entirely new purposes. They come up with ideas before there is widespread demand and vindicate them sufficiently to get others interested. These users are commonly delighted to see their improvements shared. When

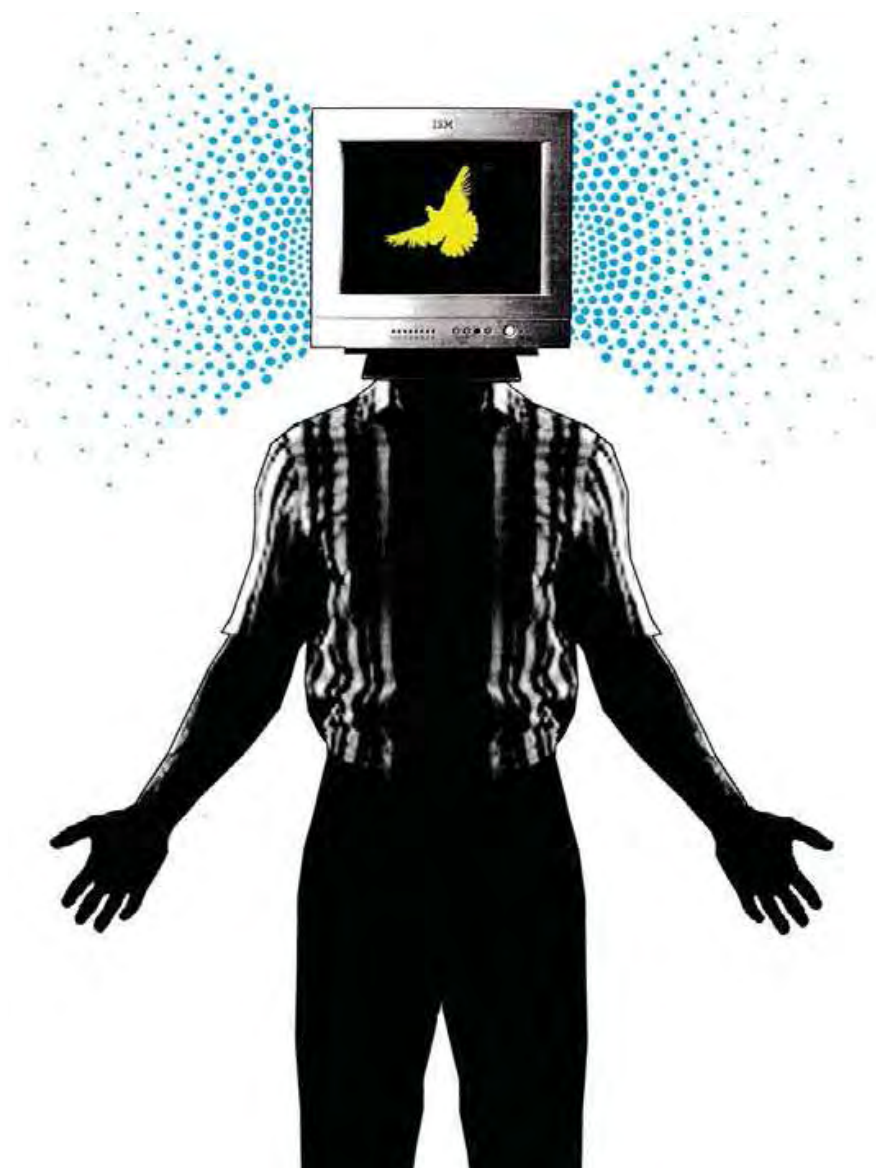
interest gets big enough, companies can step in and fully commercialize the innovation.

We have thus settled into a landscape in which both amateur and professional, small- and large-scale ventures contribute to major innovations. Consumers can become enraptured by a sophisticated "first-person shooter" video game designed by a large firm in one moment and by a simple animation featuring a dancing hamster in the next. So it is unsurprising that the Internet and PC today comprise a fascinating juxtaposition of sweepingly ambitious software designed and built like a modern aircraft carrier by a large contractor, alongside killer applets that can fit on a single floppy diskette. OS/2, an operating system created as a joint venture between IBM and Microsoft, absorbed more than \$2 billion of research and de-

velopment investment before its plug was pulled, whereas Mosaic, the first graphical PC Web browser, was written by a pair of students during a university break.

Generative growth can blend well with traditional market models. Big firms can produce software where market structure and demand call for such enterprise; smaller firms can fill in niches; and amateurs, working alone and in groups, can design both inspirational applets and more labor-intensive software that increases the volume and diversity of the technological ecosystem. Once an eccentric and unlikely invention from outsiders has gained traction, traditional means of raising and spending capital to improve a technology can shore it up and ensure its exposure to as wide an audience as possible. An information technology ecosystem comprising only the products of the free software movement would be much less usable by the public at large than one in which big firms help sand off rough edges. GNU/Linux has become user friendly thanks to firms that package and sell copies, even if they cannot claim proprietary ownership of the software itself. Tedious tasks that improve ease of mastery for the uninitiated are probably best done through corporate models: creating smooth installation engines, extensive help guides, and other forms of hand-holding to help users embrace what otherwise might be an off-putting technical software program or Web service.

For the individual, there is a unique joy to be had in building something—even if one is not the best craftsman. (This is a value best appreciated by experiencing it; those who demand proof may not be easy to convince.) The joy of being helpful to others—to answer a question simply because it is asked and one knows a useful answer, to be part of a team driving toward a worthwhile goal—is among the best aspects of being human. Our information technology architecture has stumbled into a zone where helpfulness and team-



work can be elicited among and affirmed for tens of millions of people. Novel invention by engineers at the technical layer allows artists to contribute at the content layer. The feeling is captured fleetingly when strangers are thrown together in adverse situations and unite to overcome them—an elevator that breaks down, a blizzard or blackout that temporarily paralyzes the normal cadences of life but that leads to wonder and camaraderie rather than fear. The Internet of the early twenty-first century has distilled some of these values, promoting them without the kind of adversity or

physical danger that could make a blizzard fun for the first day but divisive and lawless after the first week without structured relief.

The Generative Stall

Generative technologies need not produce forward progress, if by progress one means something like enhancing social welfare. Rather, they foment change. Generative systems are by their nature unfinished, awaiting further elaboration from users and firms alike. As such, they can be threatened as soon as their popularity causes abusive business models to pop up. The

very openness and user-adaptability that make the Internet a creative well-spring also allow for the propagation of assorted evils – viruses, spam, porn, predation, fraud, vandalism, privacy violations, and potentially ruinous attacks on Web sites and on the integrity of the Internet itself. This is becoming an existential threat to the generative IT ecosystem.

The benefit of the generative PC is that it may be repurposed by a neophyte user at the click of a mouse. That is also a huge problem, for two main reasons. First, the PC user who clicks on bad code in effect hands over control of the PC to a total stranger. Second, the threat presented by bad code has been steadily increasing. The most well-known viruses have so far had

self or from Web searches, all in a process typically unnoticeable to the PC's owner. One estimate pegs the number of PCs involved in such botnets at 100 million to 150 million – one quarter of all the computers on the Internet as of early 2007. Such zombie computers were responsible for more than 80% of the world's spam in June 2006, and spam in turn accounted for an estimated 80% of the world's total e-mail that month.

Because the current computing and networking environment is so sprawling and dynamic, and its ever-more-powerful building blocks are owned and managed by regular citizens rather than technical experts, its vulnerability has increased substantially. The public will not and cannot maintain their PCs

The fundamental tension is that the point of a PC is to be easy for users to reconfigure to run new software, but when users make poor decisions about what new software to run, the results can be devastating to their machines and, if they are connected to the Internet, to countless others. Simply choosing a more secure platform does not solve the problem. To be sure, Microsoft Windows has been the target of malware infections for years, but this in part reflects Microsoft's dominant market share. As more users switch to other platforms, those platforms will become appealing targets as well. And the most enduring way to subvert security measures may be through the front door – by simply asking a user's permission to add some malware disguised as new functionality – rather than trying to steal in through the back to silently exploit an operating system flaw.

PC and Internet security vulnerabilities are a legitimate menace, and people are right to be concerned. However, the most likely reactions if they are not forestalled will be at least as unfortunate as the security problems themselves. Users will choose PCs that operate more like appliances, forfeiting the ability to easily install new code themselves. Instead they will use their machines as mere dumb terminals linked to Web sites that offer added interactivity. Many of these Web sites are themselves amenable to appliance-like behavior. Indeed, what some have applauded as Web 2.0 – a new frontier of peer-to-peer networks and collective, collaborative content production – is an architecture that can be tightly controlled and maintained by a central source, which may choose to operate in a generative way but is able to curtail those capabilities at any time.

Consider Google's terrific map service. It is not only highly useful to end users, it also has an open application-programming interface to its map data. Thanks to the open API, a third-party Web site creator can start with a mere

The point of a PC is to be easy for users to reconfigure, but when they make poor choices, the results are devastating.

completely innocuous payloads. The 2004 Mydoom worm spread like wildfire and affected connectivity in millions of computers around the world. Though it cost billions of dollars in lost productivity, Mydoom did not tamper with data, and it was programmed to stop spreading at a set time. Viruses like Mydoom are more like the crime of graffiti, with no economic incentive, than like the sale of illegal drugs, with its large markets and sophisticated criminal syndicates.

There is now a business model for bad code – one that gives many viruses and worms payloads for purposes other than simple reproduction. What seemed truly remarkable when it was first discovered is now commonplace: viruses that compromise PCs to create large “botnets” open to later instructions. Such instructions have included directing the PC to become the botnet's own e-mail server, sending spam by the millions to e-mail addresses harvested from the hard disk of the machine it-

to the level that professional network administrators do, despite the fact that their machines are significantly more powerful than the minicomputers of the 1970s and 1980s. That vulnerability is exacerbated by people's increased dependence on the Internet. Well-crafted worms and viruses routinely infect vast swaths of Internet-connected personal computers. In 2004, for example, the Sasser worm infected more than half a million computers in three days. The Sapphire/Slammer worm in January 2003 went after a particular kind of Microsoft server and infected 90% of them – 120,000 machines – within ten minutes. These hijacked machines together were performing 55 million searches per second for new targets just three minutes after the first computer fell victim. If any of these pieces of malware had truly “mal” or nefarious purposes – for example, to erase hard drives or randomly transpose numbers in spreadsheets – nothing would stand in the way.

list of street addresses and immediately produce on her site a Google map with a digital pushpin at each address. This allows any number of “mashups” to be made, combining Google maps with third-party geographic data sets. Web developers are using the Google Maps API to create Web sites that find

and map the nearest Starbucks; create and measure running, hiking, or biking routes; pinpoint the locations of traffic-light cameras; and collate prospective partners on Internet dating sites to produce instant displays showing where one’s best matches are located.

In allowing coders access to its map data, Google’s mapping service is generative. But its generativity is contingent: Google assigns each Web developer a key and reserves the right to revoke it at any time, for any reason – or to terminate the whole service. It is certainly understandable that Google, in

What’s Generative and What’s Not?

More Generative		Less Generative
	LEGOS AND A DOLLHOUSE Legos are highly adaptable, accessible, and easy to master. They can be built, deconstructed, and rebuilt into whatever form the user wishes, and third parties can publish “recipes” for new forms. (To be sure, Legos are still usually only toys.) The less-generative dollhouse supports imaginative play but is itself unmodifiable.	
	HAMMER AND JACKHAMMER A hammer is accessible, easy to master, and useful in any number of household tasks. A jackhammer is less broadly accessible, harder to master, and good only for breaking up asphalt, concrete, and stone.	
	PC AND TiVO A PC is an adaptable multipurpose tool whose leverage extends through networked access to new software and other users. TiVo is an inflexible tethered appliance. Though based on the same technology as a PC, it can be modified only by its maker, restricting its uses to those that TiVo invents.	
	BICYCLE AND AIRPLANE Bicycles are accessible (there’s no license to pedal), relatively easy to master, and adaptable by large communities of avid users and accessorizing firms. Airplanes are highly useful for long-distance travel but not very accessible, adaptable, or easy to master.	

choosing to make a generative service out of something in which it has invested heavily, would want to control it. But this puts within the control of Google, and anyone who can regulate Google, all downstream uses of Google Maps – and maps in general, to the extent that Google Maps' excellence means other mapping services will fail or never be built.

The business models of other next-generation Internet appliances and services are neither enduringly generative nor, in some instances, as unambiguously generative as the open Internet and PC. For example, Microsoft's Xbox is a video game console that has as much computing power as a PC and is networked to other users with Xboxes. Microsoft loses money on every Xbox it sells but makes it back by selling its own games and other software to run on it. Third-party developers can write Xbox games, but they must obtain a license from Microsoft (which includes

giving Microsoft a share of the profits) before they can distribute them.

Most mobile phones are similarly constrained: They are smart, and many can access the Internet, but the access is channeled through browsers provided and controlled by the phone-service

If Internet security breaches threaten the PC's ability to perform reliably, consumers will not see the PC's merit.

vendor. Many PDAs come with software provided through special arrangements between device and software vendors, as Sony's Mylo does when it offers Skype. Without first inking deals with device makers, software developers cannot have their code run on the devices even if users desire it. In 2006, AMD introduced the Internet Box, a device

that looks just like a PC but cannot run any new software without AMD's permission. What's more, AMD can install on the machines any software it chooses – even after they have been purchased.

The growing profusion of tethered appliances takes many Internet innovations and wraps them up neatly and compellingly, which is good – but only if the Internet and PC can remain sufficiently in the center of the digital ecosystem to produce the next round of innovations and to provide competition for the locked-down appliances. The balance between the two spheres is precarious, and it is slipping toward the appliances. People buy these devices for their convenience or functionality, and some may appreciate the fact that they limit the damage users can do through ignorance or carelessness. But appliances also circumscribe the beneficial applications users can create or receive from others – applications they

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may not realize are important to them when they purchase the device. The risk, then, is that users will unwittingly trade away the future benefits of generativity, a loss that may go unappreciated even as innovation tapers off.

Eliminate the PC from many dens and living rooms, and we eliminate the test bed and distribution point for new software. We also eliminate the safety valve that keeps information appliances honest: If TiVo makes a digital video recorder that too-strictly limits what people can do with their recorded video, customers will turn to DVR software like MythTV, which records and plays TV shows on PCs; if mobile phones are too expensive, people will use Skype.

Of course, people don't buy PCs as insurance policies against appliances that limit their freedom (even though they serve this vital function); they buy them to perform certain preconceived tasks. But if Internet security breaches and other sorts of anarchy threaten the PC's ability to perform those tasks reliably, most consumers will not see the PC's merit, and the safety valve will be lost. If the PC ceases to be at the center of the information technology ecosystem, the most restrictive aspects of information appliances will become commonplace.

Information Appliances and Regulation

When information appliances stay connected to their makers, those companies can be asked to implement changes to the way they work long after they have been purchased for a specific use. Consider the case of *TiVo v. EchoStar*. TiVo introduced the first digital video recorder in 1998, allowing consumers to record and time-shift TV shows. In 2004, TiVo sued satellite TV distributor EchoStar for infringing TiVo's patents by building DVR functionality into some of EchoStar's dish systems. TiVo won and was awarded \$90 million in damages and interest – but that was not all. In August 2006 the court issued

an order directing EchoStar to disable the DVR functionality in most of the infringing units then in operation.

In other words, the court ordered EchoStar to kill DVRs in the living rooms of people around the world who had bought them and who might be watching programs recorded on them at that very instant. Imagine sitting down to watch a much-anticipated TV show or sportscast and instead find-

It is difficult to sketch a picture of all the innovative changes that will not happen in a future dominated by appliances.

ing that all your recordings have been zapped, along with the DVR functionality itself – killed by a remote signal traceable to the stroke of a judge's quill. The logic is plain: If an article infringes intellectual property rights, under certain circumstances it can be impounded and destroyed. It is typically impractical to go around impounding every item that falls under this category (police officers don't go door-to-door looking for Rolex and Louis Vuitton knockoffs), so plaintiffs and prosecutors traditionally go after only those selling the contraband goods. But the tethered functionality of a DVR means that EchoStar can easily effect the remote modification or even destruction of its units. (The case is currently on appeal.)

Remote modification can also allow makers to repurpose their appliances, sometimes in ways that are undesirable to their owners. General Motors and BMW offer onboard systems like OnStar to provide car owners with a variety of useful services and functions, including hands-free calling, turn-by-turn driving directions, tire pressure monitoring, and emergency roadside assistance. Because the systems are networked and remotely upgradeable, the

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U.S. Federal Bureau of Investigation sought to use the technology to eavesdrop on conversations occurring in a vehicle by remotely reprogramming the onboard system to function as a roving bug. The bureau obtained secret orders requiring one carmaker to carry out that modification, and the company complied under protest. A U.S. federal appellate court found in *The Company v. the United States* that the anonymous carmaker could theoretically be ordered to perform the modifications but that the FBI's surveillance interfered with the computer system's normal use. A car with a secret open line to the FBI could not simultaneously connect to the automaker. If the occupants tried to use the system to summon emergency help, it would not function. (Presumably, the FBI would not come to the aid of the motorist the way the automaker promises to do.) The implication of the ruling was that secret FBI surveillance of this sort would be legally permissible if the system were redesigned to simultaneously process emergency requests.

A shift to smarter appliances, ones that can be updated by – and only by – their makers, is fundamentally changing the ways in which we experience our technologies. They become contingent: Even if you pay up front for them, such appliances are rented instead of owned, subject to revision by the maker at any moment.

What price will that control exact? It is difficult to sketch a picture of all the innovative changes that will not happen in a future dominated by appliances, but history offers a guide. Before the generative PC and Internet entered the mainstream around 1995, the IT landscape saw comparatively few innovations. In the dozen years since then, the Internet and PC have combined to inspire accelerated technical innovation outside the traditional firm-based R&D process: new Web-powered forms of business value, new social networks and communities of interest, and experiments in collaborative, collective intelligence. They are crucibles for new

forms of culture, political action, and participation, and they will lose their power if the Internet and its end points migrate toward more reliable but less changeable configurations.

Saving the Generative Internet

If the Internet status quo is untenable, and the solution of tethered appliances creates too many undesirable consequences, we must look for other solutions. The central challenge facing today's information technology ecosystem is to maintain a generative

For the generative Internet to save itself, it must generate its own solutions.

openness to experiments that can be embraced by the mainstream with as few barriers as possible, in the face of potentially overwhelming problems that arise precisely because it is so flexible and powerful. We may draw useful general guidelines from some of the success stories of generative models that have shown staying power. Here is a brief sampling:

Netizenship. One solution to the generative problem deploys tools for people to use, usually in small groups, to prevent what they see as abuse. For example, Wikipedia offers easy-to-master tools that make it possible for self-identified editors to combat vandalism that arises from allowing anyone to edit entries. It is a system at once naive and powerful compared with the more traditional levers of regulation and control designed to stop outliers from doing bad things. It is the opposite of the client-service model in which a customer calls a helpline. Rather, it is like a volunteer fire department or a neighborhood watch. Not everyone will be able to fight fires or watch the neighborhood – to be sure, some will be setting the fires! – but even a small subset can become a critical mass.

The propagation of bad code is a social problem as well as a technical

one, and people can enter into a social configuration to attack it. A small application could run unobtrusively on PCs of participating users and report either to a central source, or perhaps only to each other, information about the vital signs and running code of that PC, which would help other PCs understand whether the code is risky or not. With that information, one PC could use other unidentified PCs' experiences to empower the user: At the moment the user is deciding whether to run some new software, the application's

connections to other machines could show, say, how many of the other machines were running the code, whether the machines of self-described experts were running it, whether those experts had been moved to vouch for it, and how long the code had been available. It could also signal the amount of unintended network traffic, pop-up ads, or crashes the code appears to cause. These sorts of data could be viewed on a simple dashboard, letting PCs users make quick judgments in light of their own risk preferences.

Virtual machines. For those people who simply want their PCs to operate reliably, a medium-term solution may lie in technologies that allow mission-critical work to be isolated from the whimsical, experimental activities that might be dangerous – or might become the next key use of the Internet. Computer scientist Butler Lampson and others are developing promising architectures that allow single PCs to have multiple zones, two or more virtual machines running within one box. A meltdown in the red, experimental zone cannot affect the more-secure green zone, and thus the consumer is spared having to choose between a generative box and an appliance. Tax returns and important documents go

in green; Skype starts out in red and then moves over only when it seems ready for prime time.

More help from ISPs. Maintaining security of a generative system is by its nature an ongoing process, one requiring the continuing ingenuity of those who want it to work well and the broader participation of others to counter the actions of a determined minority to abuse it. If the network is completely open, the end points can come under assault. If the end points remain free as the network becomes slightly more ordered, they act as safety valves should network filtering begin to block more than bad code. Today ISPs turn a blind eye to zombie computers on their networks, so they do not have to spend time working with their subscribers to fix them. Whether through new industry best practices or through a rearrangement of liability requiring ISPs to take action in the most flagrant and egregious of zombie situations, we can buy another measure of time in the continuing cat-and-mouse game of security.

Network neutrality for mashups. Those who provide content and services over the Internet have lined up in favor of "network neutrality," by which ISPs would not be permitted to disfavor certain legitimate content that passes through their servers. Similarly, those who offer open APIs on the Internet ought to be application neutral, so all those who want to build on top of their interfaces can rely on certain basic functionality.

Generative systems offer extraordinary benefits. As they go mainstream, the people using them can share some sense of the experimentalist spirit that drives them. The solutions above are sketched in the most basic of terms, but what they share is the idea that for the generative Internet to save itself, it must generate its own solutions. The more we can maintain the Internet as a work in progress, the more progress we can make. 

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We look for lessons in the actions of great leaders. We should instead be examining what goes on in their heads – particularly the way they creatively build on the tensions among conflicting ideas.

How Successful Leaders Think

by Roger Martin

WE ARE DRAWN to the stories of effective leaders in action. Their decisiveness invigorates us. The events that unfold from their bold moves, often culminating in successful outcomes, make for gripping narratives. Perhaps most important, we turn to accounts of their deeds for lessons that we can apply in our own careers. Books like *Jack: Straight from the Gut* and *Execution: The Discipline of Getting Things Done* are compelling in part because they implicitly promise that we can achieve the success of a Jack Welch or a Larry Bossidy – if only we learn to emulate his actions.

But this focus on *what a leader does* is misplaced. That's because moves that work in one context often make little sense in another, even at the same company or within the

Alex Nabaum



experience of a single leader. Recall that Jack Welch, early in his career at General Electric, insisted that each of GE's businesses be number one or number two in market share in its industry; years later he insisted that those same businesses define their markets so that their share was no greater than 10%, thereby forcing managers to look for opportunities beyond the confines of a narrowly conceived market. Trying to learn from what Jack Welch did invites confusion and incoherence, because he pursued – wisely, I might add – diametrically opposed courses at different points in his career and in GE's history.

So where do we look for lessons? A more productive, though more difficult, approach is to focus on *how a leader thinks* – that is, to examine the antecedent of doing, or the

certainly not every good leader exhibits this capability, nor is it the sole source of success for those who do. But it is clear to me that integrative thinking tremendously improves people's odds.

This insight is easy to miss, though, since the management conversation in recent years has tilted away from thinking and toward doing (witness the popularity of books like *Execution*). Also, many great integrative thinkers aren't even aware of their particular capability and thus don't consciously exercise it. Take Jack Welch, who is among the executives I have interviewed: He is clearly a consummate integrative thinker – but you'd never know it from reading his books.

Indeed, my aim in this article is to deconstruct and describe a capability that seems to come naturally to many



We often don't know what to do with fundamentally opposing models. Our first impulse is usually to determine which is “right” and, by the process of elimination, which is “wrong.”



ways in which leaders' cognitive processes produce their actions.

I have spent the past 15 years, first as a management consultant and now as the dean of a business school, studying leaders with exemplary records. Over the past six years, I have interviewed more than 50 such leaders, some for as long as eight hours, and found that most of them share a somewhat unusual trait: They have the predisposition and the capacity to hold in their heads two opposing ideas at once. And then, without panicking or simply settling for one alternative or the other, they're able to creatively resolve the tension between those two ideas by generating a new one that contains elements of the others but is superior to both. This process of consideration and synthesis can be termed integrative thinking. It is this discipline – not superior strategy or faultless execution – that is a defining characteristic of most exceptional businesses and the people who run them.

I don't claim that this is a new idea. More than 60 years ago, F. Scott Fitzgerald saw “the ability to hold two opposing ideas in mind at the same time and still retain the ability to function” as the sign of a truly intelligent individual. And

successful leaders. To illustrate the concept, I'll concentrate on an executive I talked with at length: Bob Young, the colorful cofounder and former CEO of Red Hat, the dominant distributor of Linux open-source software. The assumption underlying my examination of his and others' integrative thinking is this: It isn't just an ability you're born with – it's something you can hone.

Opposable Thumb, Opposable Mind

In the mid-1990s, Red Hat faced what seemed like two alternative paths to growth. At the time, the company sold packaged versions of Linux open-source software, mainly to computer geeks, periodically bundling together new versions that included the latest upgrades from countless independent developers. As Red Hat looked to grow beyond its \$1 million in annual sales, it could have chosen one of the two basic business models in the software industry.

One was the classic proprietary-software model, employed by big players such as Microsoft, Oracle, and SAP, which sold customers operating software but not the source code. These companies invested heavily in research and development, guarded their intellectual property jealously, charged high prices, and enjoyed wide profit margins because their customers, lacking access to the source code, were essentially locked into purchasing regular upgrades.

The alternative, employed by numerous small companies, including Red Hat itself, was the so-called free-software

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model, in which suppliers sold CD-ROMs with both the software and the source code. The software products weren't in fact free, but prices were modest – \$15 for a packaged version of the Linux operating system versus more than \$200 for Microsoft Windows. Suppliers made money each time they assembled a new version from the many free updates by independent developers; but profit margins were narrow and revenue was uncertain. Corporate customers, looking for standardization and predictability, were wary not only of the unfamiliar software but also of its small and idiosyncratic suppliers.

Bob Young – a self-deprecating eccentric in an industry full of eccentrics, who signaled his affiliation with his company by regularly sporting red socks and a red hat – didn't like either of these models. The high-margin proprietary model ran counter to the whole philosophy of Linux and the open-source movement, even if there had been a way to create proprietary versions of the software. "Buying proprietary software is like buying a car with the hood welded shut," Young told me. "If something goes wrong, you can't even try to fix it." But the free-software model meant scraping a slim profit from the packaging and distribution of a freely available commodity in a fringe market, which might have offered reasonable returns in the short term but wasn't likely to deliver sustained profitable growth.

Young likes to say that he's not "one of the smart guys" in the industry, that he's a salesman in a world of technical geniuses. Nonetheless, he managed to synthesize two seemingly irreconcilable business models, placing Red Hat on a path to tremendous success. His response to his strategic dilemma was to combine the free-software model's low product price with the proprietary model's profitable service component, in the process creating something new: a corporate market for the Linux operating system. As is often the case with integrative thinking, Young included some twists on both models that made the synthesis work.

Although inspired by the proprietary model, Red Hat's service offering was quite different. "If you ran into a bug that caused your systems to crash," Young said of the service you'd buy from the big proprietary shops, "you would call up the manufacturer and say, 'My systems are crashing.' And he'd say, 'Oh, dear,' while he really meant, 'Oh, good.' He'd send an engineer over at several hundred dollars an hour to fix his software, which was broken when he delivered it to you, and he'd call that customer service." Red Hat, by contrast, helped companies manage the upgrades and improvements available almost daily through Linux's open-source platform.



Young also made a crucial change to what had been the somewhat misleadingly dubbed free-software model: He actually gave the software away, repackaging it as a free download on the Internet rather than as an inexpensive but cumbersome CD-ROM. This allowed Red Hat to break away from the multitude of small Linux packagers by acquiring the scale and market leadership to generate faith among cautious corporate customers in what would become Red Hat's central offering – service, not software.

In 1999, Red Hat went public, and Young became a billionaire on the first day of trading. By 2000, Linux had captured 25% of the server operating system market, and Red Hat held more than 50% of the global market for Linux systems. Unlike the vast majority of dot-com era start-ups, Red Hat has continued to grow.

What enabled Young to resolve the apparent choice between two unattractive models? It was his use of an innate but underdeveloped human characteristic, something we might call – in a metaphor that echoes another human trait – the opposable mind.

Human beings are distinguished from nearly every other creature by a physical feature: the opposable thumb. Thanks to the tension that we can create by opposing the thumb and fingers, we can do marvelous things – write, thread a needle, guide a catheter through an artery. Although evolution provided human beings with this potential advantage, it would have gone to waste if our species had not exercised it in ever more sophisticated ways. When we engage in something like writing, we train the muscles involved and the brain that controls them. Without exploring the possibilities of opposition, we wouldn't have developed either its physical properties or the cognition that accompanies and animates it.

Analogously, we were born with opposable minds, which allow us to hold two conflicting ideas in constructive, almost dialectic tension. We can use that tension to think our way toward new, superior ideas. Were we able to hold only one thought or idea in our heads at a time, we wouldn't have access to the insights that the opposable mind can produce.

Unfortunately, because people don't exercise this capability much, great integrative thinkers are fairly rare. Why is this potentially powerful but generally latent tool used so infrequently and to less than full advantage? Because putting it to work makes us anxious. Most of us avoid complexity and ambiguity and seek out the comfort of simplicity and clarity. To cope with the dizzying complexity of the world around us, we simplify where we can. We crave the certainty of choosing between well-defined alternatives and the closure that comes when a decision has been made.

For those reasons, we often don't know what to do with fundamentally opposing and seemingly incommensurable models. Our first impulse is usually to determine which of the two models is "right" and, by the process of elimination, which is "wrong." We may even take sides and try to prove that our chosen model is better than the other one. But in rejecting one model out of hand, we miss out on all the value that we could have realized by considering the opposing two at the same time and finding in the tension clues to a superior model. By forcing a choice between the two, we disengage the opposable mind before it can seek a creative resolution.

This nearly universal personal trait is writ large in most organizations. When a colleague admonishes us to "quit complicating the issue," it's not just an impatient reminder to get on with the damn job – it's also a plea to keep the complexity at a comfortable level.

To take advantage of our opposable minds, we must resist our natural leaning toward simplicity and certainty. Bob Young recognized from the beginning that he wasn't bound to choose one of the two prevailing software business models. He saw the unpleasant trade-offs he'd have to make if he chose between the two as a signal to rethink the problem from the ground up. And he didn't rest until he found a new model that grew out of the tension between them.

Basically, Young refused to settle for an "either-or" choice. That phrase has come up time and again in my interviews with successful leaders. When asked whether he thought strategy or execution was more important, Jack Welch responded: "I don't think it's an 'either-or.'" Similarly, Procter & Gamble CEO A.G. Lafley – when asked how he came up with a turnaround plan that drew on both cost cutting and investment in innovation – said: "We weren't going to win if it were an 'or.' Everybody can do 'or.'"

The Four Stages of Decision Making

So what does the process of integrative thinking look like? How do integrative thinkers consider their options in a way that leads to new possibilities and not merely back to the same inadequate alternatives? They work through four related but distinct stages. The steps themselves aren't particular to integrative thinking: Everyone goes through them while thinking through a decision. What's distinctive about integrative thinkers is how they approach the steps. (See the exhibit "Conventional Versus Integrative Thinking.")

Determining salience. The first step is figuring out which factors to take into account. The conventional approach is to discard as many as possible – or not even to consider some of them in the first place. In order to reduce our exposure to uncomfortable complexity, we filter out salient features when considering an issue.

We also do this because of how most organizations are structured. Each functional specialty has its own narrow view of what merits consideration. Finance departments haven't traditionally regarded emotional factors as salient; similarly, departments concerned with organizational behavior have often ignored quantitative questions. Managers pressure employees to limit their view of what's salient to match the department's doctrine, leaving people with only a subset of the factors to which they might otherwise have productively paid attention.

When our decisions turn out badly, we often recognize after the fact that we've failed to consider factors that are significant to those outside the immediate reach of our jobs or functional specialties. We say to ourselves, "I should have thought about how the employees in our European operation would have interpreted the wording of that memo" or "I should have thought about the state's road-repair program before choosing a site for our new distribution center." The integrative thinker, by contrast, actively seeks less obvious but potentially relevant factors. Of course, more salient features make for a messier problem, but integrative thinkers don't mind the mess. In fact, they embrace it, because it assures them that they haven't dismissed anything that may illuminate the problem as a whole. They welcome complexity, because that's where the best answers come from. They are confident that they'll find their way through it and emerge on the other side with a clear resolution.

Conventional Versus Integrative Thinking

When responding to problems or challenges, leaders work through four steps. Those who are conventional thinkers seek simplicity along the way and are often forced to make unattractive trade-offs. By contrast, integrative thinkers welcome complexity – even if it means repeating one or more of the steps – and this allows them to craft innovative solutions.

	1 Determining Salience	2 Analyzing Causality	3 Envisioning the Decision Architecture	4 Achieving Resolution
CONVENTIONAL THINKERS	Focus only on obviously relevant features	Consider one-way, linear relationships between variables, in which more of A produces more of B	Break problems into pieces and work on them separately or sequentially	Make either-or choices; settle for best available options
INTEGRATIVE THINKERS	Seek less obvious but potentially relevant factors	Consider multidirectional and nonlinear relationships among variables	See problems as a whole, examining how the parts fit together and how decisions affect one another	Creatively resolve tensions among opposing ideas; generate innovative outcomes

In his thinking about a new business model for Red Hat, Bob Young added into his calculations something ignored both by software companies generally and by Linux suppliers in particular: the day-to-day concerns of corporate CIOs and their systems administrators. Doing this allowed him to envision an innovative model that tapped into an entirely new market for Linux-based products and services.

As a whole, the software industry disdains CIOs' reluctance to buy the newest and best technology, attributing it to timidity or strict adherence to the "you'll never get fired for buying IBM" mantra. Young not only empathized with the CIOs but found their caution understandable. "It's *not* FUD – fear, uncertainty, and doubt," he said. "It's sensible."

Linux software was an entirely new product for corporate buyers, one that didn't follow any familiar rules. It was free. No one supplier controlled it. Thousands of versions were out there, and each one changed nearly every day. From the CIOs' perspective, that Linux was cheaper and better than Windows-based products – the basic sales message delivered by Red Hat's rivals – played a relatively small part in the calculation. The CIOs were thinking about whether their investment would be in a stable and consistent platform that would work across their organizations and whether their suppliers would still be around in ten or 15 years. Systems administrators worried that the complexity of Linux – with

its random and almost daily upgrades – would create a management nightmare, since different teams of people throughout the company would have to maintain the software packages.

Viewing these concerns as salient helped lead Young to conclude that, in the case of Linux, service was a bigger selling point than product and that a vendor's long-term credibility was crucial.

Analyzing causality. In the second step of decision making, you analyze how the numerous salient factors relate to one another. Conventional thinkers tend to take the same narrow view of causality that they do of salience. The simplest type of all is a straight-line causal relationship. It's no accident that linear regression is the business world's preferred tool for establishing relationships between variables. Other tools are available, of course, but most managers shun them because they're harder to use. How many times has a superior scolded you for making a problem more complicated than it needs to be? You protest that you're not trying to complicate anything; you just want to see the problem as it really is. Your boss tells you to stick to your job, and a potentially complex relationship becomes a linear one in which more of A produces more of B.

When we make bad decisions, sometimes it is because we got the causal links between salient features wrong. We may

have been right about the direction of a relationship but wrong about the magnitude: “I thought that our costs would decrease much faster than they actually did as our scale grew.” Or we may have gotten the direction of a relationship wrong: “I thought that our capacity to serve clients would increase when we hired a new batch of consultants, but it actually shrank, because the experienced consultants had to spend a huge amount of their time training the new ones and fixing their rookie mistakes.”

The integrative thinker isn’t afraid to question the validity of apparently obvious links or to consider multidirectional and nonlinear relationships. So, for example, rather than simply thinking, “That competitor’s price-cutting is hurting our bottom line,” the integrative thinker may conclude, “Our

Young create a more nuanced picture of the industry’s future than his competitors were able to.

Envisioning the decision architecture. With a good handle on the causal relationships between salient features, you’re ready to turn to the decision itself. But which decision? Even the simple question of whether to go to a movie tonight involves deciding, at the very least, which movie to see, which theater to go to, and which showing to attend. The order in which you make these decisions will affect the outcome. For example, you may not be able to see your preferred movie if you’ve already decided you need to be back in time to relieve a babysitter who has plans for later in the evening. When you’re trying to invent a new business model, the number of decision-making variables explodes. And with that comes



**Integrative thinkers don’t mind a messy problem.
In fact, they welcome complexity, because that’s where
the best answers come from.**



product introduction really upset our rivals. Now they’re cutting prices in response, and our profitability is suffering.”

The most interesting causal link that Young identified was the rather subtle one between the free availability of Red Hat software’s basic components and the likely – or inevitable, in Young’s view – evolution of the industry. The relationships he saw between pricing, profitability, and distribution channel drove his company in a different direction from its Linux competitors, which saw a perfectly good market for their “free” software. This is what allowed him to create and then lock up the new corporate market.

For example, Young recognized the vulnerability of a product based on freely available components. Whatever you charged for the convenience of getting a Linux operating system bundled together on one CD-ROM, inevitably “someone else would come in and price it lower,” he said. “It was a commodity in the truest sense of the word.” He also realized that a company that wasn’t a current rival – say, a big electronics retailer – could put together a Linux product of its own and then push it through its own well-developed distribution channel, leaving Red Hat and other suppliers out in the cold. “I knew I needed a product I had some control over so I could make CompUSA a customer” – that is, a corporate purchaser of Red Hat’s service package – “rather than a competitor” with its own CD-ROM product.

The causal relationships spotted by Young weren’t earth-shattering on their own, but putting them together helped

the impulse not only to establish a strict sequence in which issues will be considered but also to dole out pieces of a decision so that various parties – often, different corporate functions – can work on them separately.

What usually happens is that everyone loses sight of the overriding issue, and a mediocre outcome results. Suppose that Bob Young had delegated to different functional heads questions concerning the pricing, enhancement, and distribution of Red Hat’s original software product. Would their individual answers, agglomerated into an overall Red Hat strategy, have produced the spectacularly successful new business model that Young came up with? It doesn’t seem all that likely.

Integrative thinkers don’t break down a problem into independent pieces and work on them separately or in a certain order. They see the entire architecture of the problem – how the various parts of it fit together, how one decision will affect another. Just as important, they hold all of those pieces suspended in their minds at once. They don’t parcel out the elements for others to work on piecemeal or let one element temporarily drop out of sight, only to be taken up again for consideration after everything else has been decided. An architect doesn’t ask his subordinates to design a perfect bathroom and a perfect living room and a perfect kitchen, and then hope that the pieces of the house will fit nicely together. A business executive doesn’t design a product before considering the costs of manufacturing it.

Young held simultaneously in his head a number of issues: the feelings and the challenges of chief information officers and systems administrators, the dynamics of both the individual and the corporate markets for operating system software, the evolving economics of the free-software business, and the motivations behind the major players in the proprietary-software business. Each factor could have pushed him toward a separate decision on how to address the challenge. But he delayed making decisions and considered the relationships between these issues as he slowly moved toward the creation of a new business model, one based on the belief that dominant market share would be critical to Red Hat's success.

Achieving resolution. All of these stages – determining what is salient, analyzing the causal relationships between the salient factors, examining the architecture of the problem – lead to an outcome. Too often, we accept an unpleasant trade-off with relatively little complaint, since it appears to be the best alternative. That's because by the time we have reached this stage, our desire for simplicity has led us to ignore opportunities in the previous three steps to discover interesting and novel ways around the trade-off. Instead of rebelling against the meager and unattractive alternatives, instead of refusing to settle for the best available bad choice, the conventional thinker shrugs and asks, "What else could we have done?"

"Much else," the integrative thinker says. A leader who embraces holistic rather than segmented thinking can creatively resolve the tensions that launched the decision-making process. The actions associated with the search for such resolution – creating delays, sending teams back to examine things more deeply, generating new options at the 11th hour – can appear irresolute from the outside. Indeed, the integrative thinker may even be dissatisfied with the fresh batch of options he's come up with, in which case he may go back and start over. When a satisfactory outcome does emerge, though, it is inevitably due to the leader's refusal to accept trade-offs and conventional options.

The outcome in the case of Red Hat was completely unconventional – not many companies suddenly decide to give away their products – and ultimately successful. Young's gradual realization that only one player in his industry would have leverage with and support from corporate customers – and that such leverage and support could reap attractive service revenues from totally free software – shaped the dramatically creative decision he made.

The thinking that he intuitively engaged in is very different from the thinking that produces most managerial decisions. But, he said, his experience was hardly unique: "People are often faced with difficult choices – for instance, 'Do I want to be the high-quality, high-cost supplier or the low-quality, low-cost supplier?' We're trained to examine the pros and cons of such alternatives and then pick one of them. But

really successful businesspeople look at choices like these and say, 'I don't like either one.'" Using that recurring phrase, he added: "They don't accept that it's an 'either-or.'"

Born and Bred

The consequences of integrative thinking and conventional thinking couldn't be more distinct. Integrative thinking generates options and new solutions. It creates a sense of limitless possibility. Conventional thinking glosses over potential solutions and fosters the illusion that creative solutions don't actually exist. With integrative thinking, aspirations rise over time. With conventional thinking, they wear away with every apparent reinforcement of the lesson that life is about accepting unattractive trade-offs. Fundamentally, the conventional thinker prefers to accept the world just as it is, whereas the integrative thinker welcomes the challenge of shaping the world for the better.

Given the benefits of integrative thinking, you have to ask, "If I'm not an integrative thinker, can I learn to be one?" In F. Scott Fitzgerald's view, only people with "first-rate intelligence" can continue to function while holding two opposing ideas in their heads. But I refuse to believe that the ability to use our opposable minds is a gift reserved for a small minority of people. I prefer the view suggested by Thomas C. Chamberlin, a nineteenth-century American geologist and former president of the University of Wisconsin. More than 100 years ago, Chamberlin wrote an article in *Science* magazine proposing the idea of "multiple working hypotheses" as an improvement over the most commonly employed scientific method of the time: testing the validity of a single hypothesis through trial and error. Chamberlin argued that his approach would provide more accurate explanations of scientific phenomena by taking into account "the co-ordination of several agencies, which enter into the combined result in varying proportions." While acknowledging the cognitive challenges posed by such an approach, Chamberlin wrote that it "develops a habit of thought analogous to the method itself, which may be designated a habit of parallel or complex thought. Instead of a simple succession of thoughts in linear order...the mind appears to become possessed of the power of simultaneous vision from different standpoints."

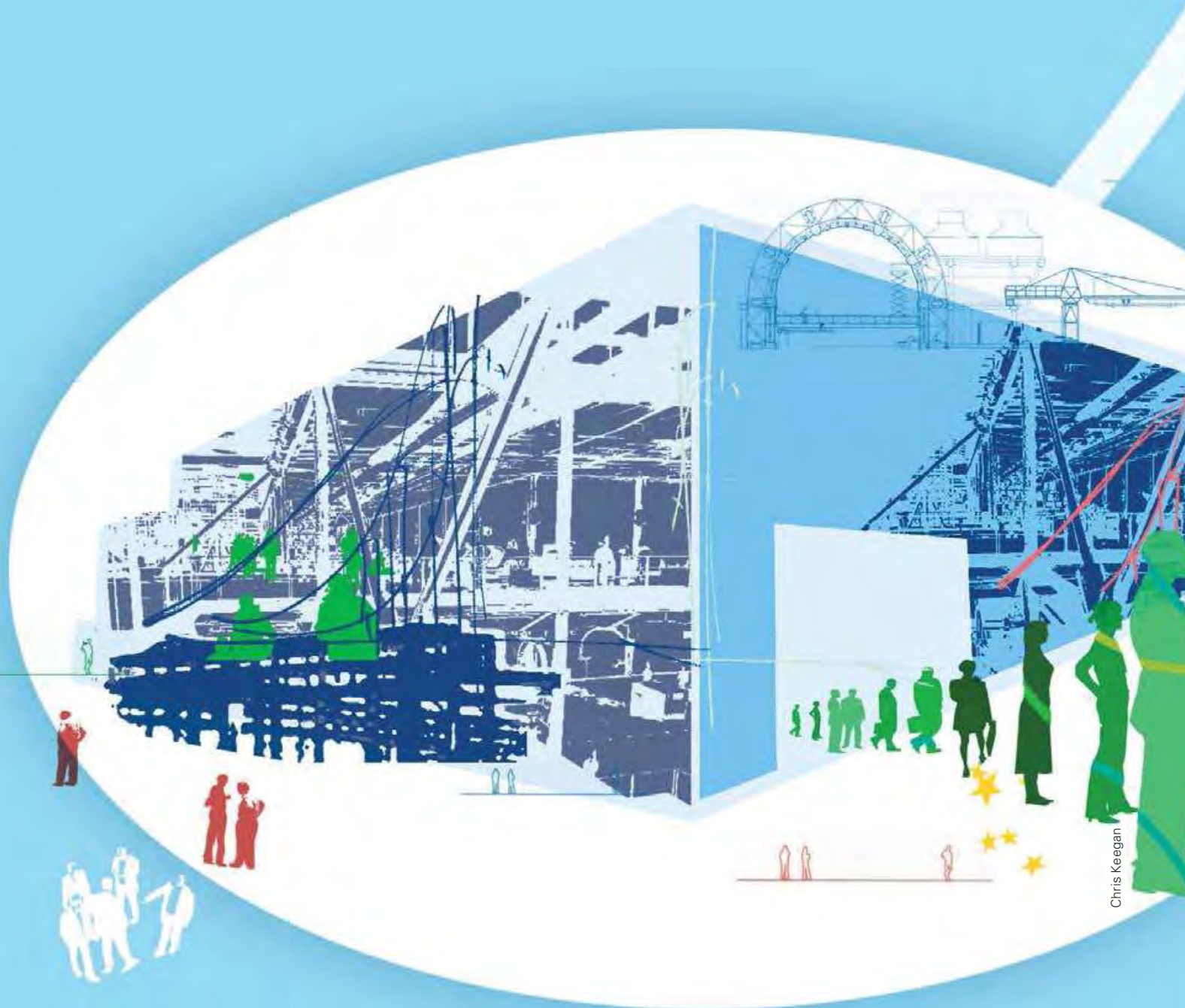
Similarly, I believe that integrative thinking is a "habit of thought" that all of us can consciously develop to arrive at solutions that would otherwise not be evident. First, there needs to be greater general awareness of integrative thinking as a concept. Then, over time, we can teach it in our business schools – an endeavor that colleagues and I are currently working on. At some point, integrative thinking will no longer be just a tacit skill (cultivated knowingly or not) in the heads of a select few. 

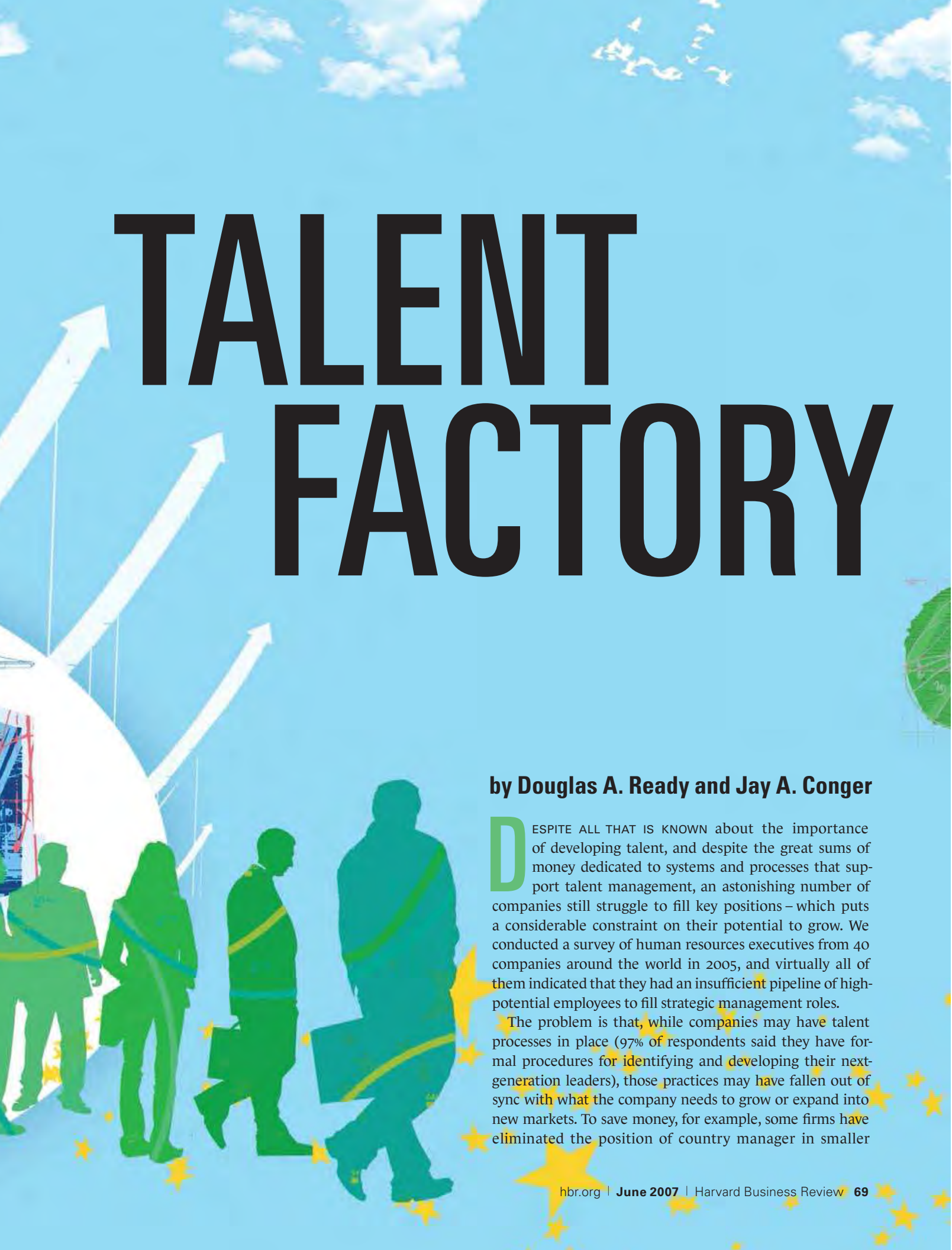
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*Stop losing out on lucrative business opportunities
because you don't have the talent to develop them.*

Make Your Company a





TALENT FACTORY

by Douglas A. Ready and Jay A. Conger

DESPITE ALL THAT IS KNOWN about the importance of developing talent, and despite the great sums of money dedicated to systems and processes that support talent management, an astonishing number of companies still struggle to fill key positions—which puts a considerable constraint on their potential to grow. We conducted a survey of human resources executives from 40 companies around the world in 2005, and virtually all of them indicated that they had an insufficient pipeline of high-potential employees to fill strategic management roles.

The problem is that, while companies may have talent processes in place (97% of respondents said they have formal procedures for identifying and developing their next-generation leaders), those practices may have fallen out of sync with what the company needs to grow or expand into new markets. To save money, for example, some firms have eliminated the position of country manager in smaller

nations. Since that role offers high-potential employees comprehensive exposure to a broad range of problems, however, the company's initial savings may well be outweighed by the loss of development opportunities.

Even if a company's practices and supporting technical systems are robust and up to date, talent management will fail without deep-seated commitment from senior executives. More than half the specialists who took part in our research had trouble keeping top leaders' attention on talent issues. Senior line executives may vigorously assert that obtaining and keeping the best people is a major priority – but then fail to act on their words. Some managers still believe they can find talented employees by paying a premium or by using the best executive recruiters, while others are

major reconstruction job in Berlin – an effort that would represent not only a €500 million boost in revenues over two years, but also an opportunity to get in on the ground floor of many other projects in that part of the world. When the executive committee reviewed the list of people who might be ready to take on such an assignment, the CEO noticed that the same names appeared as the only candidates for other critical efforts under consideration. And when he asked his business unit heads for additional prospects, he was told that there weren't any. The firm's growth strategy hinged on these projects, but the company had failed to groom people to lead them.

Some companies, by contrast, face the future with confidence because they don't just manage talent, they build

Demographic shifts – notably, the impending retirement of baby boomers – and changing business conditions have combined to produce something of a **PERFECT STORM.**

distracted by competing priorities. Passion must start at the top and infuse the corporate culture; otherwise, talent management processes can easily deteriorate into bureaucratic routines.

The challenge of filling key positions has, in a sense, crept up on businesses, many of which used to view development almost as an employee benefit. Today, demographic shifts – notably, the impending retirement of baby boomers – along with changing business conditions, such as significant growth in largely unfamiliar markets, like China, have combined to produce something of a perfect storm. Leadership development has become a much more strategic process, and faulty processes and executive inattention now carry a tangible cost. We've attended multiple executive committee meetings where companies have been forced to pass on hundreds of millions of dollars of new business because they didn't have the talent to see their growth strategies through to fruition. One London-based real estate finance and development firm, for instance, was gearing up for a

what we call "talent factories." In other words, they marry *functionality*, rigorous talent processes that support strategic and cultural objectives, and *vitality*, emotional commitment by management that is reflected in daily actions. This allows them to develop and retain key employees and fill positions quickly to meet evolving business needs.

Consider, for example, how one talent factory, consumer products icon Procter & Gamble, found a leader for a burgeoning joint venture with an entrepreneur in Saudi Arabia. The role required someone with emerging markets experience, who had worked in other countries and in the laundry detergent business, and who was ready and willing to relocate on short notice to Saudi Arabia. For most companies' HR departments, finding and hiring such a senior manager would entail protracted dialogue with internal and external candidates and might well end in failure. P&G, however, searched its global database of talent profiles and came up with five very strong potential candidates in just a few minutes. In the end, they found just the right fit, and the new

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manager was fully on board three months after the start of the search.

In this article, we look at the people processes in two talent factories: Procter & Gamble and financial services giant HSBC Group. We selected these companies because even though they approach talent management from slightly different directions, both illustrate the power of a twin focus on functionality and vitality. P&G has established a plethora of elaborate systems and processes to deploy talent; HSBC has worked mightily to incorporate talent processes into the firm's DNA. Both companies can claim a free-flowing pipeline of current and future leaders.

Functionality: Effective Execution

Functionality refers to the processes themselves, the tools and systems that allow a company to put the right people with the right skills in the right place at the right time, as P&G did in Saudi Arabia. Good design isn't just a matter of technical excellence; clearly linking processes to the company's objectives is equally important. In particular, processes should support most CEOs' top concerns: driving performance and creating an effective climate.

So, for example, after years of growth through acquisition, HSBC in 2002 shifted its strategy to focus on organic growth. The goal was to strengthen local resources in multiple geographies for the firm's increasingly global customers. Achieving this objective required an accompanying cultural shift, since HSBC had always operated as a confederation of fiercely independent, stand-alone businesses. As part of the move, the bank committed to a new brand promise: to be "the world's local bank," guaranteeing the availability of a local resource for customers, wherever they do business. Stephen K. Green, HSBC's chair, views performance and climate as inextricably linked: "If we don't create the proper climate internally and live up to our brand promise, we won't be able to achieve our strategic objective – managing for growth."

To develop local talent while maintaining global standards, HSBC centrally designed its human resources practices and policies but built in some flexibility to accommodate local variations. The firm now has companywide processes for assessment, recruiting, performance and career management, and leadership development, but local offices can adapt them (within limits) to their own resource capabilities and cultural requirements. When making assessments, for example, each office must choose at least two from a menu of tools, such as psychometric tests, individual interviews that probe people's aspirations, and 360-degree feedback. They must also use a standard rating scale and include performance data from the most recent three years. This way the company can ensure a degree of objectivity and



establish a common measurement language across all the businesses and locations.

To help instill a global mind-set, HSBC created a system of talent pools that track and manage the careers of high-potentials within the firm. After those employees have been identified, they are assigned to regional or business unit talent pools, which are managed by local human resources and business unit leaders. Employees in these pools are then selected initially for new assignments within their region or line of business and, over time, are given positions that cross boundaries. They are viewed as having the potential to reach a senior management role in a region or a business. Managers of the pools then single out people to recommend for the group talent pool, which represents the most senior cadre of general managers and is administered centrally. These managers are considered to have the potential to reach the senior executive level in three to five years and top management in the longer term.

Leaders maintain talent relationship dialogues with members of each pool, in face-to-face conversations where possible, to address their development needs and concerns. In new relationships, the dialogues are time intensive and

Mapping Functionality and Vitality

The functionality and vitality of your company's talent management processes determine how well you can groom your high-potential employees to fill strategic management roles. To show how to assess these processes, we've mapped the strengths and weaknesses of a typical, though hypothetical, company. In this example, the organization is pursuing a "one company" strategy, hoping to achieve better global integration. In other words, it wants to be able to serve its customers anywhere they do business. Clearly, this requires a talent pool that can easily move across regional, functional, and unit boundaries, as well as the capacity to find and develop local talent "on the ground."

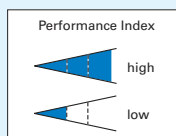
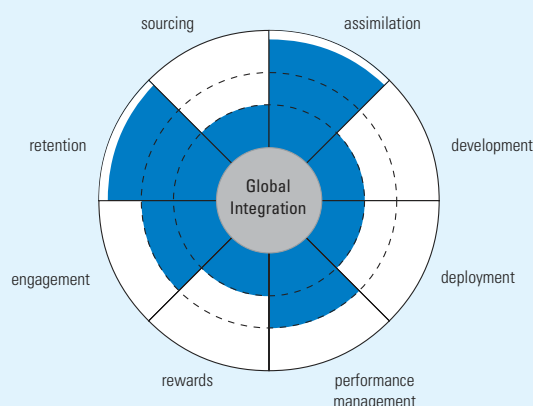
The Functionality Wheel shows that this firm is weak on sourcing, deployment, development, and rewards; better at retention, assimilation, performance management, and engagement. The firm may be able to keep its local talent happy and productive, but it struggles to

place people in key positions or move them across unit or geographic borders.

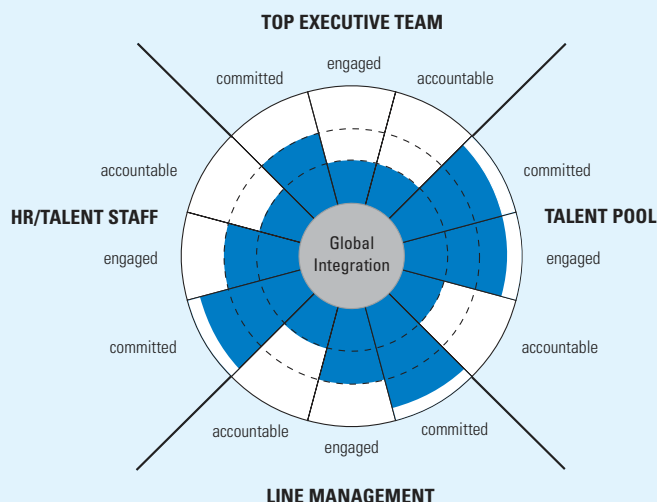
Corporate vitality is manifested by the passion for talent management among four constituencies: the top team, line management, human resources, and talent itself. As the Vitality Wheel shows, this company neither champions the process nor holds other key stakeholders accountable for developing talent. Despite high commitment, all the segments in this firm are weak on accountability, and the top team is weak on engagement as well. Since a company's talent management process is only as strong as its weakest link, and vitality falls apart without mutual accountability, this company plainly has a lot of work to do.

Identifying weaknesses in functionality and vitality can help a company clarify its talent management agenda. If this organization wanted to grow in China, for instance, it could improve its sourcing by developing relationships with Chinese universities.

The Functionality Wheel



The Vitality Wheel



The Functionality Wheel, on the left, shows that this company's processes are weak on sourcing, development, deployment, and rewards; better when it comes to retention, assimilation, performance management, and engagement. The Vitality Wheel, right, demonstrates a high level of commitment, but engagement – the inclination to dig into the work of talent management – is low among top managers. As for accountability, the company is weak across the board.

available to the employee on demand; in established relationships, the conversations tend to occur two to four times a year, as needed. The aim is to structure a set of experiences that leads to a deep knowledge of all aspects of the business as well as an understanding of the many different cultural environments in which HSBC operates.

In fact, people are told that if they want to reach the highest levels of management they must expect to work in at least two very different cultural environments. The number of people making such moves has increased exponentially over the past few years. “We have a Brazilian working with one of our affiliates in China, our insurance affiliate,” Green told us. “We have an Armenian working in India in the IT function, a Turk working in New York. There are...hundreds and hundreds of examples of this.” Green acknowledges that this approach is expensive – it’s nearly always cheaper to fill a role with someone local – but considers it a vital investment in achieving the firm’s global goals.

HSBC is still tweaking the process. The bank learned, for instance, that assessing each employee on a scale of one to five was demoralizing for some people, so it modified the

senior managers, who have been nominated by their country, functional, or customer group leader because they’ve demonstrated a potential for growth and because their roles have policy implications across the enterprise.

These meetings, which are held twice per year, have become a vehicle for senior people in the company to share knowledge and ideas across corporate borders and customer groups. During one conference, the general manager for Mexico told his colleagues how he managed to rebrand a recent acquisition, Grupo Financiero Bital, literally overnight. His story shed light on the value of collaborating across company boundaries. At another gathering, one of HSBC’s senior executives explained how acquiring the U.S. firm Household International gave the organization much deeper capabilities in customer analytics and buying behavior. During yet another meeting, a couple of general managers explained how they built on their preexisting relationship to ease the transfer of a client from commercial banking to private banking. (In the past, the client would have been jealously guarded because his profitability would have been attributed to whichever group “owned” that customer.) After each

Unlike processes, which can be copied by competitors, PASSION IS VERY DIFFICULT TO DUPLICATE. Nevertheless, there are measures that companies can take to build it into their cultures.

process to rate only people in the top two levels of some areas. Feedback for the rest is framed in terms of development needs and support, rather than “you haven’t made it into a talent pool.” This change takes into account early-stage career development, which entails gaining a certain amount of expertise before a person is ready to advance.

HSBC also learned that, talent pools notwithstanding, leaders of the local units still behaved as princes of their domains – they weren’t connecting across units in ways that would benefit the firm overall. In short, the model of international teamwork was still more an aspiration than an operating principle. To close this gap between aspiration and reality, HSBC resolved conflicts in its reward system and took steps to build relationships on a more personal basis. So, for example, the top executive team launched what it called collective-management conferences, where employees could learn about the company’s strategic objectives and operations around the world – another way to help people feel like part of an organization that extends beyond their own unit or locale. Each conference is attended by about 40

conference, participants are asked to commit to doing one or two things differently to strengthen the firm’s collaboration capabilities.

The company also established networks across countries, so that, for instance, the head of personal financial services in Hong Kong knows her counterpart in Mumbai, in Mexico City, in São Paulo, in Vancouver. These networks allow executives to participate in important virtual meetings on a regular basis for each line of business and provide them with opportunities to gather face-to-face in occasional off-site meetings.

Like HSBC, Procter & Gamble has tied its talent management processes to its strategy for growth, which means a focus on winning in the emerging markets of China, India, Latin America, the Middle East, and Eastern Europe. The company is building what amounts to a global talent supply-chain management process, coordinated worldwide but executed locally. Hiring and promotions are the responsibility of local managers, but high-potential prospects and key stretch assignments are identified globally.

Assessing Your Company's Overall Capability

To get a sense of your company's current capability, rate its strength on a scale of one to ten in the following areas. Then, write down one thing you will do to address any weakness. Your ratings will give you an idea of the areas you need to focus on.

	We're poor performers			We're OK, but nothing to cheer about				We're at or near benchmark status		
	1	2	3	4	5	6	7	8	9	10
1 Do you know what skills your company needs to execute its growth objectives? What will you do to strengthen your company's capability in this area? _____										
2 Does your company have a process for identifying, assessing, and developing its next generation of leaders in all its businesses and regions? What will you do to strengthen your company's capability in this area? _____										
3 Do you have specific development plans for your high-potential leaders? What will you do to strengthen your company's capability in this area? _____										
4 Are you able to deploy the right people when emerging opportunities arise, quickly and without significant disruption to other parts of your organization? What will you do to strengthen your company's capability in this area? _____										
5 Do you have diverse and plentiful pools of talented employees who are ready, willing, and able to be deployed to new opportunities at the technical, managerial, and leadership levels of your organization? What will you do to strengthen your company's capability in this area? _____										
6 Do you have a diverse and plentiful pool of leaders who are capable of moving into your organization's most senior executive roles? What will you do to strengthen your company's capability in this area? _____										
7 Do you offer managers and executives developmental experiences specifically aimed at preparing them for the unique challenges of leading large, complex, global organizations? What will you do to strengthen your company's capability in this area? _____										
8 Have you, as a leader, used words and deeds to unequivocally demonstrate that you are fully committed to developing talent globally in your company? What will you do to strengthen your company's capability in this area? _____										
9 Would the people around you consider you actively engaged in your company's talent management initiatives? What will you do to strengthen your company's capability in this area? _____										
10 Do you hold your managers and leaders accountable for identifying and developing talent in their businesses, functions, and regions? What will you do to strengthen your company's capability in this area? _____										

New hires tend to be local talent. Line managers in China, for instance, hire Chinese recruits. That's been the case for some time, but it used to be that key corporate roles in emerging markets went to expatriates. Now, local hires are considered growth prospects for the firm; those Chinese recruits are expected to become managers in that market. Key stretch assignments and senior positions, however, are managed globally, at the executive level. The emphasis on hiring nationals translates into a diverse pool of leadership talent for the entire corporation, especially at more senior levels: At the geography and country leader level, there are almost 300 executives who come from 36 countries, and 50% are from outside the United States. The top 40 executives come from 12 different nations, and 45% are from outside the United States. As high-potential employees advance, they move through a portfolio of senior-level jobs that are categorized according to strategic challenges, size of the business, and complexity of the market. Leadership positions for businesses or countries are earmarked for either novice or experienced general managers. A relatively small country-manager position – in Taiwan, for instance – is considered appropriate for first-time general managers. Such assignments then set up the incumbents for placement in larger countries, like Italy or Brazil, which in turn can lead to roles in clusters of countries, such as Eastern Europe or the United Kingdom. Those last roles then become springboards or crucibles for leaders who demonstrate the potential to become senior executives.

P&G offers formal training and development programs and sometimes sends managers to external executive education programs. The lion's share of development, however, takes place on the job, with the immediate manager's support and help from mentors and teammates. A typical marketing manager, for example, will have worked with a number of different brands over a period of time. A finance manager will have gone through various assignments, ranging from financial analysis to treasury to auditing to accounting. Most managers are also placed on important multifunctional task forces or project teams from time to time. New postings and task force participation are expected to challenge employees, and they signal to managers that P&G will always offer new opportunities.

Consider the career progression of Daniela Riccardi, who has been with the company for 22 years. She started as an assistant brand manager in Italy, where she stayed for six years, advancing to brand manager. A three-year stint in Belgium as a marketing manager for cleansers and bleach followed. She then spent seven years in three Latin American countries, holding the positions of marketing director, general manager, and vice president of ever-larger divisions. From there, she became a vice president of Eastern Europe, and in 2005, she was promoted to her current position – President, Greater China. When the development of a career like

Riccardi's has to be managed across business units and countries, the planning process is led collaboratively from the center by the company's CEO, A.G. Lafley; the vice chairs; the global HR officer; and the global leaders of the various functions for their people. All this is done in partnership with the president and human resources manager at both ends of the reassignment.

People and positions are tracked in a technology-based talent management system that is sufficiently robust to accommodate all the company's more than 135,000 employees but is primarily used to track 13,000 middle- and upper-management employees. The system captures information about succession planning at the country, business category, and regional levels; includes career histories and capabilities, as well as education and community affiliations; identifies top talent and their development needs; and tracks diversity. It also makes in-house talent visible to business leaders, who no longer have to scour the company to find candidates by themselves. To keep the systems relevant, P&G has instituted a global talent review – a process by which every country, every function, and every business is assessed for its capacity to find, develop, deploy, engage, and retain skilled people, in light of specific performance objectives. For example, if the company has stated diversity hiring objectives, the review is used to audit diversity in hiring and promotions. Determinations made in these reviews are captured in a global automated talent development system and can be accessed by decision makers through their HR managers.

The company also pays close attention to the effectiveness of its recruiting processes. P&G interviewers record detailed assessments of each candidate and assign them a quantitative score, using uniform criteria. The company then regularly assesses performance against the baseline set during the interviews. P&G also evaluates the success rate of its key promotions, using quantitative and qualitative measures that cover a three-year period. Managers who improve the business and its capabilities are deemed "successful"; the company has a success rate that exceeds 90%. When derailments occur, P&G conducts a thorough "lessons learned" review.

Vitality: The Secret Weapon

If functionality is about focusing your company's talent management processes to produce certain outcomes, vitality is about the attitudes and mind-sets of the people responsible for those processes – not just in human resources but throughout the line, all the way to the top of the organization. Unlike processes, which can with some effort be copied by competitors, passion is very difficult to duplicate. Nevertheless, there are measures that companies can take to build it into their cultures. Our research shows that the vitality of a company's talent management processes is a product

of three defining characteristics: *commitment*, *engagement*, and *accountability*.

Fostering commitment. P&G hires and develops people through a set of principles – such as the rules to hire at entry level and build from within – that are specifically designed to foster commitment. While people typically have long careers with the company, the average age for all employees is only 39; 38 for all managers. More than half the organization has been with P&G for less than five years. That's because the company constantly pumps in new talent and has

this right...all the way from intake through the most influential senior positions." Line executives participate directly in the process, partnering with the central and regional HR functions to fill important positions.

Building engagement. Engagement reflects the degree to which company leaders show their commitment to the details of talent management. P&G engages employees in their own career development the day they start with the company. They work with their hiring managers to plot moves that will build what the company calls "career development

Any company aiming to grow – and, in particular, to grow on the global stage – has little hope of achieving its goals without the ability to PUT THE RIGHT PEOPLE ON THE GROUND, AND FAST.

integrated huge numbers of people through its acquisitions of Clairol, Gillette, and Wella. So, even with the relatively low attrition rate of 7.5% (including retirements), more junior managers are always coming in. P&G hires 90% of its entry-level managers straight from universities and grows their careers over time. (The relative youth of the workforce may also reflect that this approach often allows for retirement earlier than usual.) All the vice chairs and corporate officers either joined the company from universities or arrived via acquisitions. Lafley himself joined P&G right out of Harvard Business School and, over the subsequent 25-plus years, went through numerous assignments before becoming CEO.

To gain commitment early, the company also established a college intern program that offers the chance to assume real responsibility by working on important projects with the full resources of the company. Extensive intern programs can be a drain on an organization because of the time that managers must spend sponsoring, coaching, and advising the interns. P&G, however, converts former interns to full-time employees at a percentage well above that of most competitors, so the company is compensated for its investment with high-quality hires who can hit the ground running. It also assigns interns to multifunctional teams that work on business and organizational issues and present solutions to the CEO and senior management sponsors. The company often ends up implementing the suggestions those teams come up with. One of the four ideas presented in 2006, for instance, may result in accelerating the launch of a new brand; two other projects have been partially implemented.

At HSBC, commitment to talent is personified by Green, who explains, "There is nothing more important than getting

currency." For high-potentials, P&G identifies "destination jobs," which are attainable only if the employee continues to perform, impress, and demonstrate growth potential. The purpose is to view job assignments through a career development lens. For instance, a manager whose destination job is to become a president of one of P&G's seven regions will go through assignments in different locations to acquire international experience and work in a global business unit with responsibility for a major product category.

University recruiting is a line-led activity at P&G, and many senior managers personally lead campus teams at top universities around the world. These executives are held accountable for hiring only graduates with outstanding track records in both academic and nonacademic performance (such as summer jobs, clubs, and entrepreneurial activities). To bolster ties with these institutions, the campus team leaders also fund research, make technology gifts, participate in the classroom, and judge case study competitions.

As for HSBC, a conversation with Green makes his engagement immediately clear. Green has a remarkable knowledge of the company's day-to-day people processes and can speak at length about how the company approaches recruitment, where managers are deployed, how their careers are progressing, and what they will need to do to continue advancing. Down through the ranks, line engagement in talent management is ensured by specific policies and practices, such as the requirement that each unit have a talent implementation strategy. These plans explicitly link a unit's growth objectives to its people development, so the company won't be surprised by any deficits. Barbara Simpson, HSBC's group head of talent, works closely with each unit to develop its proposal

and presents the aggregated plans to the group head office, highlighting any gaps in talent to meet the firm's growth objectives. This process keeps talent management high on the agendas of line and corporate leaders and prevents them from getting distracted by seemingly more pressing problems. What's more, talent management, succession planning, international moves, and senior-executive development are standing agenda items at meetings of business executive committees and the group's board.

The bank fosters engagement in new hires by sending them to the United Kingdom for a seven-week training program, typically in groups of 30 to 40, whose members represent about 20 nations. At these sessions, held several times a year, new employees have a chance not just to meet one another and members of the leadership team – Green or his most senior colleagues spend some time with them – but also to share their own ideas about the bank.

Ensuring accountability. Talent factories hold all stakeholders (including talented employees themselves) accountable for doing their part to make systems and processes robust. At P&G, Lafley claims ownership for career planning of all the general managers and vice presidents and for the talent pools that comprise what he refers to as the company's "top 16s": P&G's preeminent 16 markets, 16 customers, and 16 brands. He reviews the top talent assignment and succession plans for each business and region annually. Along with the company's vice chairs and presidents, he personally sponsors and teaches all the leadership development courses for the company's most senior 300 leaders, signaling that talent management is both a leadership responsibility and a core business process. All of P&G's managers and

executives understand that they will be held accountable for identifying and developing the firm's current and future leaders. They are evaluated and compensated on their contributions to building organizational competence, not just on their performance.

HSBC's Green holds his group management board, which comprises about a dozen executives, accountable for the company's talent pools. Each member is responsible for a region, a customer group, or a product. Members oversee the list of people in their own business in the regional talent pool as well and select managers for the group pool.

Executives are also held accountable for maintaining honesty in the talent management process, which is easier said than done, says Green. "We've had people who got into talent pools who shouldn't have. You can either let it ride, or you have that hard conversation saying, 'Sorry, this wasn't right,' or 'You were a legitimate member of the talent pool but you started to coast and lost it a bit.' You don't do people a favor by being nice all the time."

...

Leaders have long said that people are their companies' most important assets, but making the most of them has acquired a new urgency. Any company aiming to grow – and, in particular, to grow on the global stage – has little hope of achieving its goals without the ability to put the right people on the ground, and fast. Companies apply focus and drive toward capital, information technology, equipment, and world-class processes, but in the end, it's the people who matter most. ▢

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"I have to take this call. Can you stand there quietly for the next hour?"

Wittingly or not, many companies encourage customers to make bad purchases – with the result that their profits depend on their most dissatisfied customers. Are you making the same mistake?

by Gail McGovern and Youngme Moon

COMPANIES AND THE CUSTOMERS WHO **HATE THEM**

ONE OF THE MOST INFLUENTIAL propositions in marketing is that customer satisfaction begets loyalty, and loyalty begets profits. Why, then, do so many companies infuriate their customers by binding them with contracts, bleeding them with fees, confounding them with fine print, and otherwise penalizing them for their business? Because, unfortunately, it pays. Companies have found that confused and ill-informed customers, who often end up making poor purchasing decisions, can be highly profitable indeed.

What follows is a cautionary tale. Some companies consciously and cynically exploit customers in this way. But in



our conversations with dozens of executives in various industries, we found that the majority of firms that profit from their customers' confusion have unwittingly fallen into a trap. Without ever making a deliberate decision to do so, they have, over a period of years, taken greater advantage of their customers. In most cases, there's no defining moment when these companies crossed the line. Rather, they found themselves on a slippery slope that led to an increasingly antagonistic strategy.

Think of the cell phone service, banking, and credit card industries, each of which now demonstrably profits from customers who fail to understand or follow the rules about minute use, minimum balances, overdrafts, credit limits, or payment deadlines. Most of the companies in these industries started out with product and pricing strategies designed to provide value to a variety of customer segments, each with its own needs and price sensitivities.

from the equally legitimate decision to use fees and penalties to cover costs and discourage undesirable customer behavior.

In the first case, a company creates a diverse product and pricing portfolio to offer various value propositions to different customer segments. All else being equal, a hotel that has three types of rooms at three price points can serve a wider customer base than a hotel that has just one type of room at one price. However, customers benefit from such diversity only when they are guided toward the offering that best suits their needs. A company is less likely to help customers make good choices if it knows that it can generate more profits when they make poor ones.

Of course, only the most flagrant companies would explicitly seduce customers into making bad choices. Yet there are subtle ways in which even generally well-intentioned firms use complex portfolios to encourage suboptimal choices—

Many firms have discovered just how profitable penalties can be; as a result, they have an incentive to encourage their customers to incur them – or, at least, not to discourage them from doing so.

Yet today, many companies in these industries and others find that their transparent, customer-centric strategies for delivering value have evolved into opaque, company-centric strategies for extracting it. Although this approach may work for a while – many notable practitioners are highly profitable – businesses that prey on customers are perpetually vulnerable to their pent-up hostility. At any time, customers may retaliate with vitriol, lawsuits, and defection.

Companies that extract value as a conscious strategy know who they are. But for those that do not realize where they're headed, this article can help them recognize and dismantle these risky value-extracting practices, reducing their vulnerability to customer retaliation and increasing their competitive advantage.

The Slippery Slope

Companies can profit from customers' confusion, ignorance, and poor decision making in two related ways. The first evolves out of the legitimate attempt to create value by giving customers a broad set of offerings. The second emerges

tactics that hasten the descent down the slippery slope. Complicated offerings can confuse customers with a lack of transparency (hotels, for example, often don't reveal information about discounts and upgrades); they can make it hard for customers to distinguish among products, even when complete information is available (as is often the case with banking services); and they can take advantage of consumers' difficulty in predicting their needs (for instance, how many cell phone minutes they'll use each month).

Companies can also profit from customers' bad decisions by overrelying on penalties and fees. Such charges may have been conceived as a way to deter undesirable customer behavior and offset the costs that businesses incur as a result of that behavior. Penalties for bouncing a check, for example, were originally designed to discourage banking customers from spending more than they had and to recoup administrative costs. The practice was thus fair to company and customer alike. But many firms have discovered just how profitable penalties can be; as a result, they have an incentive to encourage their customers to incur them – or, at least, not to discourage them from doing so. Many credit card issuers, for example, choose not to deny a transaction that would put the cardholder over his or her credit limit; it's more profitable to let the customer overspend and then impose penalties.

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The Strategies at Work

These adversarial value-extracting strategies are common across industries, from banking and hotels to video stores, book-purchasing clubs, ticketing agencies, and car rentals. Here we'll look in detail at some examples of these strategies in the cell phone service, retail-banking, and health club industries.

Cell phone service industry. When they sign up for service plans, cell phone customers must generally choose a pricing "bucket." A typical carrier, for example, offers several dozen pricing options, ranging from low-priced plans that come with a limited number of minutes to high-priced plans that come with thousands. Each plan has its own restrictions and allowances.

While this may appear to be a customer-centric way of offering value, these service portfolios are in essence designed to take advantage of customers' difficulty in predicting their usage by penalizing them either for using too much time or for not using enough. The carrier benefits when consumers choose plans that don't reflect their actual consumption patterns, regardless of the direction of the error. In fact, as much as 50% of U.S. carriers' income comes from overage and underage fees – what the industry refers to as "breakage."

Tactics like these may be profitable, but they also fuel seething discontent. The U.S. Federal Communications Commission logs tens of thousands of consumer complaints against cell phone companies per year. The constant carping, which proliferates on blogs and company-specific hate sites (www.hateverizon.org is a typical example), generates untold amounts of bad publicity. Deep dissatisfaction is further manifest in relentless customer churn; it is not unusual, for example, for a major carrier to turn over a quarter of its customer base in a year – a strikingly high percentage, given that most users are shackled by contracts. This level of turnover requires companies to engage in endless, aggressive customer acquisition, including extravagant spending on advertising. In 2005, the U.S. cell phone service industry spent more than \$6 billion on ads, with acquisition costs averaging \$300 to \$400 per customer.

Dissatisfaction and churn should be particularly worrisome to firms that see their customers defecting to a competitor that provides a transparent and friendly alternative. Consider what happened in the cell phone industry when

Virgin Mobile USA arrived on the scene in 2002. The deck seemed to be stacked firmly against the company: The industry was already crowded, penetration was high, revenue growth was slowing, and Virgin enjoyed little U.S. brand recognition, aside from its reputation as a quirky airline.

What the company did have going for it was its simple offer: a pay-as-you-go pricing plan with no hidden fees, no time-of-day restrictions, no contracts, and straightforward, reasonable rates. With an annual advertising budget of only \$50 million (less than one-tenth the budget of some incumbents), the company acquired 1 million subscribers in five quarters, matching the industry record for reaching that mark.

Today, Virgin Mobile USA has nearly 5 million subscribers and a churn rate well below the industry average for pay-as-you-go subscriptions, even though its customers are free

to leave without penalty. In an industry notorious for low satisfaction rates, Virgin's customer satisfaction has been stellar, hovering in the 90th percentile since the service launched. What's more, existing customers have been acting as goodwill ambassadors: As of last year, more than two-thirds reported recommending the service to friends and family.

Virgin's competitive strategy was explicitly designed to take advantage of customers' unhappiness with the abusive practices of incumbents. As Dan Schulman, CEO of Virgin Mobile USA, told us, "Our target customers didn't trust the industry pricing

plans. These are savvy consumers, and they hate feeling like they're being conned. We designed an offer to differentiate ourselves from the competition." Schulman's remarks echo comments we heard from executives in the banking, health club, and mutual fund industries, among others, who have designed transparent offers as a conscious strategy to attract their rivals' dissatisfied customers.

Retail-banking industry. When people sign up for checking accounts, they are usually asked to choose from more than a dozen offerings. Depending on the minimum balance they agree to keep in the account, the bank pays a particular interest rate and may waive or adjust certain fees.

But consider what happens if customers do not stay within their minimum balance buckets. If their balances fall below the minimum, they pay various penalties and service charges; if their balances climb well above the minimum, they are stuck with a lower interest rate than they would

✗ **Are your most profitable customers those who have the most reason to be dissatisfied with you?**

✗ **Do you have rules that you want customers to break because doing so generates profits?**

✗ **Do you make it difficult for customers to understand or abide by your rules, and do you actually help customers break them?**

✗ **Do you depend on contracts to prevent customers from defecting?**

have earned had they chosen a different bucket. Here again, the firm wins and customers lose, regardless of the direction of the error. And here again, customers who make unwise product selections tend to be more profitable than those whose selections fit their needs.

As banks have discovered the profit potential of fees and penalties, they have gradually adjusted their tactics to take advantage of customers. When some banks tally up customers' accounts at the end of each day, for example, they debit checks in order of size – biggest check first – rather than chronologically. This increases the chance that the remaining checks will bounce, allowing the bank to charge the customer for multiple overdrafts. Similarly, many banks have

These banking practices have a powerfully corrosive effect on customer satisfaction. Consumers haven't been shy about using the legal system to express their ire. Bank of America, for instance, is fighting a much-publicized class action lawsuit alleging that the bank improperly collected overdraft fees from direct deposit accounts configured to receive Social Security benefits.

It's no surprise that when a nice guy comes along, customers defect. Consider the online bank ING Direct: In the six years since its launch, ING Direct has taken a determinedly customer-friendly stance, offering products that are straightforward and easy to understand. From the start, the firm deliberately rejected banking orthodoxy by offering savings

Dissatisfaction and churn should be particularly worrisome to firms that see their customers defecting to a competitor that provides a transparent and friendly alternative.

phased in "courtesy" overdraft provisions that enhance the likelihood that customers will engage in consumption behaviors resulting in penalties. Customers using ATMs, for example, are increasingly allowed to overcharge their accounts without being informed that they are doing so; notification comes later, in the form of a hefty penalty.

According to one estimate, consumers paid \$53 billion in overdraft fees in 2006, a 58% increase from five years earlier. These numbers are only rising: The average overdraft fee hit a record high in 2006. Overall fees levied on customer accounts have climbed steadily during the past decade; in 2005, increases in fee income at four of the ten largest banks were in the double digits.

On the face of it, milking consumers for fees would seem to be an effective business strategy. Profits for American banks have increased by close to 67% over the past ten years. Stock prices are up for the largest banks, and so are revenues. So why shouldn't banks rely on high fees? As in the case of the cell phone industry, customer frustration has become acute. According to a recent Consumer Federation of America survey, an overwhelming majority of people believe that permitting overdrafts without notice constitutes an unfair business practice. Consumer complaints have become so pervasive that in 2007, New York congresswoman Carolyn Maloney reintroduced the Consumer Overdraft Protection Fair Practices Act to prevent banks from charging overdraft protection fees unless customers explicitly opt in to the service.

accounts with no fees, no tiered interest rates, and no minimums. Today, it offers equally simple checking accounts and gives customers surcharge-free access to a network of ATMs. Its Web site contains none of the cross-selling clutter that is characteristic of most banking sites, and its portfolio of offerings remains a paragon of product and pricing simplicity.

The approach has paid off. ING Direct is now the fourth-largest thrift bank in the United States, with total assets of more than \$60 billion. In this highly competitive industry, ING Direct is adding 100,000 new customers a month, and its customer base is rapidly approaching 5 million.

Health club industry. Health club companies have a long history of luring customers with attractive short-term offers, assaulting them with aggressive sales pitches, and then binding them with long-term contracts. That's because some of their most profitable customers on a cost-to-serve basis have been those who were enticed to sign up for a long-term membership but then rarely visited the club. Indeed, many companies, knowing that the typical health club customer will underuse the facility, intentionally sell many more memberships than they have the floor space to accommodate.

Moreover, many health clubs make it hard for customers to understand the terms of the contract and figure out the options for extricating themselves from the agreements. An investigation conducted by the New York City Council a few years ago, for example, concluded that 41% of clubs in the

city didn't explain their fees in writing, 81% didn't give potential members a contract to read at home, and 96% didn't inform customers of all the ways they could legally cancel a contract.

Not surprisingly, many of these firms have faced the same customer wrath that has plagued the cell phone and banking industries. In New York State, hundreds of formal complaints led then attorney general Eliot Spitzer to launch an investigation in 2001 into the sales and marketing practices of Bally Total Fitness, the industry's largest player. The firm settled in 2004, agreeing to improve its cancellation policies, monitor compliance with them, and make restitution to customers. The state of New Jersey, also responding to hundreds of complaints, has brought litigation against almost two dozen health clubs that allegedly failed to notify customers of their rights or provided fraudulent contracts. The U.S. Better Business Bureau continues to receive thousands of complaints per year about health clubs, putting the industry in the top 1% for the volume of complaints received.

Customer churn at the major health clubs continues unabated, running as high as 40% annually despite the lock-in demanded by contracts. Endemic customer dissatisfaction has put health clubs on a customer-acquisition treadmill that requires them to spend ever more to attract new customers as their existing ones seek a way out.

The industry appears ripe for an existing player to break ranks or for a new one to challenge the industry's bad behavior. In fact, some clubs seem to be getting the idea. Life Time Fitness has become one of the largest fitness chains in the country by eschewing contracts altogether. Membership to Life Time Fitness comes with a 30-day money-back guarantee and can be canceled at any time with no penalty. The company's attrition rate is 10% below the industry average, even though its customers can easily leave. Meanwhile, other clubs – including Curves, 24 Hour Fitness, and a host of smaller companies – are now offering pay-as-you-go options and experimenting with less antagonistic, even encouraging, ways to retain customers, such as reward points for members who work out regularly. As Brad Fogel, chief marketing officer at 24 Hour Fitness, explains, "We've learned that by giving customers incentives to visit the club more frequently, they become more loyal and ultimately remain with us longer."

Although these clubs cater to different segments (Life Time Fitness, for example, attracts families looking for a lav-



ish array of services, while Curves is known for its no-frills, bare-bones workout facilities), they share an explicit strategy of attracting customers disillusioned with the aggressive, acquisition-oriented approach for which the industry is known.

The Warning Signs

In our research, we've talked with executives from industries that, to a greater or lesser degree, profit from confused or ill-informed customers who make poor purchasing decisions. We've also identified a number of industries in which firms are just starting down the slippery slope as they discover the short-term profit potential of hidden fees, mysterious surcharges, confusing service options, and tricky fine print. This trend is apparent in the rental car industry, for example, as well as in the entertainment ticketing industry, where service, convenience, order processing, restoration, and other fees can add 10% to the base price of a ticket.

In almost every case, the executives we've spoken to have expressed discomfort with the practices, acknowledging them but arguing that they don't represent an intentional

strategy. Almost uniformly, they describe a largely unconscious process of uncoordinated implementation. The punitive fees and restrictive contracts evolved gradually, with each value-extracting addition only slightly more company centric than the one that preceded it. As a result, these executives now find themselves conducting business in ways that they know make them vulnerable and create opportunities for competitors. But having slid this far down the slope, they find it hard to get a purchase on the way back up.

Companies should be on the lookout for signs of these harmful practices. As a start, executives should ask themselves the following four questions:

✗ Are our most profitable customers those who have the most reason to be dissatisfied with us? If the answer is yes, the company is extracting value from customers who do not feel they're getting a fair return and, in the process, exposing itself to a range of risks. A yes answer doesn't mean that customers are up in arms – yet. Rather, it means that they're not receiving the value they're paying for. It's only a matter of time before they look for ways to retaliate: at best, by spreading bad word of mouth – at worst, by suing and defecting.

✗ Do we have rules we want customers to break because doing so generates profits? There are certainly situations in which it is reasonable for a firm to penalize a customer – for instance, if a hotel guest destroys property. The penalty exists to recover costs, protect value for other customers, and, one hopes, act as a deterrent. However, when a company institutes a rule that, if violated, destroys value neither for the firm nor for its other customers, that rule will in time be recognized for what it is: a mechanism allowing the firm to extract additional value from customers. Such is the case when a bank charges a customer for conducting more than an allotted number of ATM transactions.

✗ Do we make it difficult for customers to understand or abide by our rules, and do we actually help customers break them? Companies should examine whether they actively facilitate profitable “bad” customer behaviors – things like bouncing checks, returning videos late, and exceeding credit card and cell-phone-minute limits. (Certain carriers, for example, make it cumbersome for customers to monitor their minute use.) Companies should also examine their product portfolios to determine whether their diverse offerings are designed to provide value or to take advantage of customers' ignorance or difficulty in choosing options that are in their best interest.

✗ Do we depend on contracts to prevent customers from defecting? Some situations clearly call for con-

tracts just as some call for penalties. A manufacturer should not sell a \$5 million mainframe computer on a handshake, for example. However, when contracts are used merely to prevent poorly served but profitable customers from defecting, they can harm both customer and provider.

Companies that rely on service contracts should ask whether these are functioning as the opposite of service guarantees. A service guarantee tells customers that the company is so confident in the quality of its value proposition that it will compensate customers who are not satisfied. In contrast, a long-term contract indicates that the company lacks confidence in its value proposition and needs to lock customers in so that it can keep their money even if they become dissatisfied. When such contracts are considered to be critical to a company's profitability or financial viability, it's a sign that the firm may be extracting value at the expense of customer satisfaction.

Climbing Back into Favor

Great CEOs recognize and seize opportunities; they also identify and eliminate vulnerabilities. The company-centric strategies described here represent a vulnerability – and any CEO focused on long-term sustainability would be wise to identify these strategies in the firm and begin dismantling them. Clearly, such practices can work in the short term, as the profits of certain practitioners attest. But as competitors emerge to exploit consumers' pent-up hostility, companies that bleed their customers in the ways described here should expect a punishing response, sooner or later.

As we've seen, sometimes all it takes to drive a mass defection is the appearance of a customer-friendly competitor: a firm that puts customer satisfaction and transparency first. The video rental industry learned the lesson the hard way when its customers, infuriated by late fees, flocked to service-oriented, fee-free Netflix when it launched in 1997. Netflix, it should be noted, had early success with its customer-friendly strategy but then landed on the slippery slope itself; a recent class action lawsuit against the company alleged that it intentionally delayed disc delivery to its heaviest users, thereby penalizing its best customers. The company has since taken steps to ensure that its method of prioritizing customer demand – based on what it considers a “fairness algorithm” – is more transparent.

Risk reduction is a good reason to purge antagonistic value-extracting practices. But doing so also presents companies with an opportunity for competitive differentiation. In industries where squeezing value from customers is commonplace, a transparent, value-creating offer can exploit customers' dissatisfaction with incumbents and drive rapid growth. 

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"Can a Corporation Have a Conscience?"

Harvard Business Review

January–February 1982



"Get me everything you can on scapegoats."



"Who's responsible for putting up this sign in my office?"



"It was a victimless crime – unless you count the board of directors and the shareholders."



"I've tried love and respect, but hatred and fear seem to be a better fit for me."



"They're embezzling funds again. I can tell by their giggling."

Pollution in China has reached such epic proportions that it threatens the ability of multinational corporations to do business as usual. Here's a realistic picture of what you can expect to find and how to handle it.

Scorched Earth

Will Environmental Risks in China Overwhelm Its Opportunities?

by **Elizabeth Economy and Kenneth Lieberthal**

MANY MULTATIONALS THINK they understand, and have tried to mitigate, the serious risks posed by operating in China – intellectual-property-rights violations, corruption, lack of transparency, potential political instability. Yet one of the highest risks of all – China's massive environmental degradation – is barely discussed in corporate boardrooms.

Colin Johnson



Consider the following: In December 2005, a chemical spill forced a four-day cutoff of water to a major northeastern city. There is serious concern about the potential impact of Beijing's noxious air pollution on athletes during next year's Summer Olympics. The International Energy Agency recently announced that China will surpass the United States as the leading contributor of the greenhouse gas carbon dioxide by 2009, more than a decade earlier than anticipated.

In fact, China's environmental problems are reaching the point where they could constrain its GDP growth. China's State Environmental Protection Administration (SEPA)

500 of the 70,000 violations of environmental regulations reported from 2003 through 2005 had been dealt with. The agency attributed this abysmal record to the fact that local governments around the country actively encourage enterprises to violate environmental regulations and then protect them from punishment when they do. (For more about this problem, see the sidebar "The Political Hurdle.")

Despite the fact that China's problems can very seriously affect multinationals' prospects for success, surprisingly few corporations have paid the kind of attention to environmental concerns that they warrant. In this article, we hope to help companies better understand the systemic forces

Failure to factor the environmental issue into corporate strategy greatly increases the probability that China's seemingly enormous promise will turn into a nightmare for many firms.

concluded in June 2006 that environmental degradation and pollution cost the Chinese economy the equivalent of 10% of GDP annually. This figure is echoed in more specific costs reported in the Chinese press: up to \$36 billion in lost industrial output from a lack of water to run factories, \$13 billion from the degradation and health impact of acid rain, \$6 billion from the spread of desert regions, and the list goes on.

The effect on the population is alarming. Already more than 400,000 people die each year as a result of the country's air pollution, according to environmental expert Vaclav Smil at the University of Manitoba, and an estimated 190 million people drink water so contaminated that it makes them sick. Some 40 million people have had to migrate because their local ecology can no longer sustain them. The Chinese leadership is now concerned that environmental degradation is leading to social unrest. The domestic media reported 50,000 environmental protests in 2005. Such protests are usually small in scale, but some have engaged upwards of 30,000 to 40,000 people, some have been violent, and they are increasing in frequency.

Even though the Chinese government is well aware of these problems and their potentially tragic consequences, the political system is ill equipped to stem the environmental slide. In spring 2006, SEPA announced that only about

underlying environmental issues, explain the resulting risks and opportunities, and suggest appropriate approaches to doing business in China under such daunting conditions. Failure to factor the environmental issue into corporate strategy greatly increases the probability that China's seemingly enormous promise will turn into a nightmare for many firms.

A Toxic Challenge

With the exception of coal, China is not rich in resources relative to the size of its population. Per capita, it contains less than half the global average amount of arable land, forest, grasslands, oil, and water. Extremely rapid economic development, accompanied by urbanization on a huge scale, is placing massive new demands on the environment. China's challenges fall into four areas: water, energy, soil erosion, and air pollution.

Water. The most serious challenge China confronts is access to adequate usable water. The Xinhua News Agency ranks China's total freshwater resources – 2.8 trillion cubic meters – as sixth in the world after Brazil, Canada, Russia, the United States, and Indonesia. But skyrocketing demand, population pressures, inefficiencies, overuse, and radically unequal geographic distribution all combine to produce a situation in which, according to *China Daily*, two-thirds of

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China's 650-plus cities do not have enough water for their needs and 100 are facing severe shortages.

Agriculture still commands the largest portion of China's water resources, but industrial and household uses have grown comparatively more rapidly. Middle-class Chinese, like their counterparts elsewhere in the world, have become water-intensive consumers – watering their lawns, using washing machines and dishwashers, even playing golf. China also wastes more water than developed countries: Dabo Guan and Klaus Hubacek at the University of Leeds School of Earth and Environment have found that as much as 25% of the water transmitted through pipes is lost due to leaks in China; by comparison, Japan and the United States lose only between 8% and 14%.

Lack of sufficient usable water, especially in North China, poses increasing risks to growth – and even to the ability to sustain current levels of population and economic activity. International standards define a serious water shortage as the availability of 2,000 cubic meters or less of water per capita per year; 1,000 cubic meters per year is considered the minimum for existence. Currently in North China – which stretches from Shanghai to Beijing and contains nearly 40% of China's total population – the average amount of available water is only 1,100 cubic meters per capita per year, and the water table for the entire region is dropping precipitously. In the Beijing area, the average drops under 500, according to China Watch, a joint initiative of the Worldwatch Institute and the Beijing-based Global Environmental Institute.

With so little water available on the ground, the Chinese are looking to the skies, and battles are already ensuing between different North China localities over the right to seed clouds headed in their direction. Such fights are likely to intensify. Meanwhile, the government is investing tens of billions of dollars to construct two diversion projects to bring water from the Chang (Yangtze) River to the Beijing-Tianjin region. Nevertheless, it is very unlikely that the necessary treatment facilities en route, especially for the eastern channel, will be operated efficiently or that polluting enterprises will be removed permanently from along the waterway.



Countrywide, only about 45% of the surface water can be cleaned up enough through treatment to be usable in most industries. About 40% is so polluted that it is unusable for any human, industrial, or agricultural purpose. And about 90% of water in aquifers is now polluted.

Energy needs. China's massive rural-to-urban migration, which officials predict will involve 300 million to 500 million people by 2020, has already resulted in huge new urban infrastructure needs. The demand for new roads, buildings, railroads, ports, and so on calls for significant increases in both energy and water consumption. What's more, Chinese city dwellers consume 2.5 times the energy per capita of their rural counterparts. As a result, China plans to double its coal consumption by 2020, despite its efforts to diversify away from this core and polluting energy source.

Soil erosion. Overall, 40% of China's land is affected by soil erosion. The world's highest water erosion rates occur

in North China's Loess Plateau, where, the Common Sense Environmental Fund has found, 1.6 billion tons of topsoil wash into the Yellow River annually. The Chinese desert – already one-quarter of its land – is expanding at a rate of 1,900 square miles per year and is now encroaching on Beijing. China has moved aggressively to reverse these trends with bans on logging and through large-scale reforestation campaigns, and *China Daily* has reported that total forest coverage has increased from 16.6% to 18.21% over the past five years. Even so, China's forestry officials remain concerned that the failure to plant a robust mixture of trees and to sustainably reforest land is undermining this effort.

Pollution. China today posts some of the world's highest rates of air pollution. According to SEPA vice minister Pan Yue, five of the world's ten most-polluted cities are in China. Acid rain affects one-quarter of the overall land

and one-third of the agricultural land, eroding buildings and diminishing agricultural output. China's air carries suspended-particulate-matter loads that are more than twice the highest level the World Health Organization regards as reasonably safe. The tragic result is a national mortality rate from chronic respiratory disease more than four times that of the United States. Among younger people, asthma has reached epidemic proportions.

As the environmental challenge that China poses to itself grows, the country's contribution to global environmental problems is also increasing. China is the second largest contributor to climate change, after the United States: The NGO Global Witness names China as the largest importer of illegally logged timber in the world; the *Guardian* has identified it as the largest marine polluter in the Pacific, and the World Bank calls it a leading contributor to ozone depletion.

The Political Hurdle

To deal effectively with China's environmental problems, multinationals need to understand the power allocation and incentive structures in its political system. The Chinese state intervenes in every facet of the economy. Moreover, Beijing's leaders have set up a daunting system to shift from a planned, socialist economy to an entrepreneurial market economy while maintaining stable one-party rule.

The structure works like this. China's political system is made up of five levels: national, provincial, municipal, county, and township. To their counterparts one level down, leading officials effectively say throughout this system, "We will permit you sufficient flexibility to devise creative ways to make the GDP in your jurisdiction grow." Success is rewarded in two ways. Formally, annual performance evaluations are pegged primarily to GDP growth in each jurisdiction. Informally, local officials personally benefit financially from that growth by investing in or holding positions in key firms, by assigning relatives to management positions, by engaging in plain vanilla corruption, and so on.

This system has unleashed a flood tide of official entrepreneurship that, over time, has transformed the Communist Party itself. (If the party were accurately named today, it would be the "China Bureaucratic Capitalist Party.") Party leaders at all levels are not free marketers – they are entrepreneurial tigers hell-bent on using political power directly, in league with local public and private enterprises, to spur rapid GDP growth in their own bailiwicks. The resulting relationship of the government to the

economy embodies incentives that make the political system a veritable unstoppable growth machine.

These systemic incentives encourage and enable local officials to protect their enterprises from meaningful implementation of environmental laws and regulations that might constrain economic expansion. Indeed, officials often require that enterprises in their jurisdictions ignore such laws and regulations in their quest for ongoing GDP growth. Then, in an effort to offset any fines the companies may have to pay for environmental transgressions, officials cover up the resulting problems in their reports to higher levels, interfere in local courts to prevent adverse rulings, and bestow tax breaks, bank loans, and other financial support on affected enterprises. To top it off, the environmental protection office at each level of the political system is directly subordinate to the political leadership of the locality, not to higher-level authorities in China's State Environmental Protection Administration (SEPA).

No wonder, given this context, that Beijing's orders to local officials to protect the environment have generally foundered. For example, a much-heralded initiative during 2005 and 2006 promised to evaluate local officials on the basis of how well they conserved the environment, in addition to managing their economies, by including environmental damage in the calculation of net GDP growth. The effort failed in the face of both technical difficulties and substantial opposition from local officials.

To their credit, China's national leaders are trying to encourage local cooperation in environmental enforcement by investing

The Risks

Multinationals developing strategies for working in China must grapple with these startling environmental problems; if they do so successfully, their efforts can pay off. But before we consider the opportunities, let's consider the risks of operating in China's deeply distressed environment.

Reputation. Multinationals are already viewed with suspicion by nongovernmental organizations and the Chinese media when it comes to environmental issues. Should a foreign corporation suffer a major environmental accident or become the focus of a high-profile case in which China's environmental laws are flouted for profit, this underlying presumption of guilt can significantly increase the damage done to the company's reputation, both within China and internationally.

Accusations by NGOs and the Chinese media include charges that firms invest in the country expressly to avoid the

environmental requirements of their own or other countries. Many maintain that foreign firms use outdated technology, equipment, and processes; that they manufacture products that no longer meet standards elsewhere; that they create hazardous waste material; and that they keep their non-polluting R&D centers in their home countries but bring the polluting, manufacturing components to China. Some multinationals have also been accused of exporting a significant amount of natural resources from China, destroying its forests and polluting the environment while excavating ores or other minerals.

Such accusations, and the ensuing negative media attention, can seriously damage a multinational's brand and expose a foreign firm to popular demonstrations and even legal action. Greenpeace Beijing, for example, targeted Singapore-based APP in an undercover sting operation targeting illegal logging, which resulted in the State Forestry

in related infrastructure and technologies to the tune of roughly \$175 billion in their Eleventh Five-Year Program (which extends from 2006 through 2010). In general, local leaders welcome such investment, because constructing the new facilities creates job opportunities and other benefits. China is extraordinarily capable when it comes to constructing physical facilities.

As encouraging as such investments are, the existing incentive structure leads local leaders to fail to use those welcome investments effectively. For example, about half of the Beijing-funded urban water treatment plants constructed during the Tenth Five-Year Plan now sit idle because municipal leaders do not want to use local funds to operate them. Many scrubbers in smokestacks in the Pearl River Delta are not used for the same reason; enterprises find it cheaper simply to pay fines than to adhere to the regulations.

Changing the political strategy that now endangers the environment would require top leaders to expend enormous amounts of political capital to change local incentives. They would have to declare to all territorial leaders, in effect, "The next major step in reform will take money out of your pockets." Given the many other major priorities on national leaders' plates, there is little reason to be optimistic about their readiness to force the issue.

What, then, can multinationals do to be effective in this political economy? One thing is to help national leaders understand – and explicitly recognize – the contributions multinationals are making to achieving China's environmental goals. Such publicity is powerful because, flexibility notwithstanding, officials

at all government levels like to align themselves credibly with the preferences specified at the top. Such national recognition makes it far easier for local leaders to cooperate with a foreign firm instead of giving priority to a domestic counterpart.

Fortunately, China's political economy has also created strong incentives for localities to compete against each other to attract desirable foreign investment. This means that multinationals can win support from local governments if they take the time to understand the incentives and concerns of the particular local officials and set their proposals to conform broadly to these.

Typically, this means that companies should, where possible, seize opportunities to:

- highlight the potential local growth, employment, and fiscal benefits of the environmental project they're proposing;
- promise to publicize the locality's success in meeting environmental standards and blazing new paths, enabling the locality to brand itself as an effective supporter of a national goal;
- train local people to assume the technical jobs the project will generate;
- contribute to the science and environmental curricula of local schools;
- offer to help the locality build business by touting its future potential as a clean environment.

Administration's threatening to prosecute some of the company's officials.

Comparable failings by Chinese enterprises often are not covered in the domestic press owing to political pressures. In October 2006, the Chinese media reported widely on a list of more than 2,700 companies cited by SEPA for water pollution violations. Of those companies, the 33 multinationals – DuPont, Nestlé, Panasonic, and Pepsi among them – were singled out by name. Even NGO activists who frequently partner with multinationals jumped on the bandwagon, condemning the failure of the foreign companies to practice what they preach. Groups of netizens – a newly powerful force in China – then called for ecocompensation from the named firms. The resulting damage to the brands became a source of competitive disadvantage for the targeted companies.

Faulty supply chains. For multinationals, ensuring that their supply chains at the very least meet Chinese, if not international, standards can be a challenging process.

Most foreign firms work through chains of local Chinese contractors and subcontractors to obtain the materials and components for their products. There is no guarantee that participants in the supply chain will meet or accurately certify their environment-related obligations. Multinationals that do not devote serious attention to monitoring their supply chains for problems risk confronting a very public and costly surprise at some point in the future.

For example, Wal-Mart – which has begun environmental auditing in its factories – garnered unwanted headlines in the Chinese media in November 2006 because, along with several other retailers, it was found to be selling clothing containing carcinogenic substances in its dyes. Compounding the problem was the fact that the contaminated clothing came not from one rogue factory in its supply chain but from several suppliers in different provinces.

Transportation accidents. The movement of hazardous chemicals, toxic waste, and other contaminants is also a growing problem. *China Daily* reports that the country has more road accidents than any other in the world, and there are frequent incidents of chemical spills poisoning water and land from such accidents. In December 2006 in Zhejiang province, for example, a truck smashed into a tanker carrying 30 tons of sulfuric acid, leaking fumes that killed the driver. One senior Beijing-based representative from a large chemical company has said that he scans the Chinese media daily for reports of such accidents for fear that a truck may have been transporting chemicals to or from one of his facilities. Because maintaining a responsible transport system is essential, FedEx, Shell, and several other multinationals have been actively engaged in developing road safety initiatives in China.

Lost production capacity. Severe water pollution and scarcity can put at risk investments in production. The Ger-

man press agency Deutsche Presse-Agentur has reported that major spills into China's water system occur roughly once every two to three days. Some entire localities have been forced to simply shut down enterprises and relocate substantial numbers of residents because usable water resources are no longer sufficient.

Health problems linked to environmental insults affect productivity in myriad ways, from absenteeism to low morale to underperformance on the job. They can also entail high medical and related insurance costs. Air pollution from Guangdong makes it difficult for multinationals to retain expatriate workers across the border in Hong Kong. Indeed, expatriates and their families are so alarmed at the extent of the air pollution in both Hong Kong and many other parts of China that they often demand allowances be made for their children to attend school in safer environmental climes abroad.

Accordingly, manufacturing firms in China must take care to assure access to enough clean water and air to meet production goals and standards. In some places, that may require water- and air-filtration systems, but in other places, it may simply be impossible. Firms also have a legal obligation for site cleanup, and a thorough and often costly environmental audit is therefore necessary before acquiring new property.

Collusion. The pervasive collusion between officials and Chinese enterprises often creates particularly daunting obstacles. In one case, after a Dallas-based joint venture, Tang Energy, had negotiated the land use rights to construct a wind farm, the county head revoked the rights so that a Chinese generating company could construct its own wind farm the following year. Even more troubling, the U.S. firm had been required as part of its initial application to provide copies of its wind energy assessments for the area, an analytical task that is expensive and time-consuming. The U.S. company's analysis was then provided gratis to its Chinese competitor. Given local government influence over the local legal system, the American firm is unlikely to pursue its complaint successfully through the courts.

Political instability. Environment-related political instability can erupt for many reasons and put multinationals at risk. Residents may, for example, seek to close down enterprises that are protected by corrupt local authorities who allow them to pollute water resources so much that crop yields drop, "cancer villages" arise, and the quality of life declines sharply. In January 2006, hundreds of farmers protested the air pollution from a steel plant in Guizhou. They released the water from the factory's cistern, and several farmers were arrested. In Zhejiang province in 2005, tens of thousands of villagers violently protested the pollution from 13 chemical factories. The factories were finally closed, and the leader of a local NGO that was established to monitor environmental compliance was arrested.

What Needs to Be Done

China is committed to addressing its environmental problems, as daunting as they are. The country is investing a great deal of money in more efficient and alternative energy sources, water treatment plants, pollution-monitoring and mitigation equipment, and a host of green technology projects. Additionally, China's environmental laws and regulations are becoming more stringent. Automotive manufacturers are being held to ever greater fuel efficiency and reduced tailpipe emission standards for their fleets (at least at the national level), and similar requirements will increasingly be imposed in other sectors.

Even though many Chinese companies will find ways to circumvent the bite of these new requirements, foreign firms are well advised not to put themselves at risk by doing the same. There are instead two approaches that multinationals should adopt when approaching environmental issues in China. The first is defensive – companies must make every effort to reduce harm. The second is proactive – they must invest in environmental protection efforts. Both are

has launched a number of initiatives to reduce its water and energy use and its hazardous waste generation.

Even seemingly minor steps can make a difference. Upgrading the technology used to paint Barbie's eyes to eliminate paint guns, for example, provided a cleaner environment for Mattel's Chinese workers and reduced the hazardous waste in the manufacturing process. Recognizing water scarcity and pollution as top environmental concerns, Coca-Cola has installed state-of-the-art bottling plants in China that operate with no net loss of water resources. What's more, in response to substantial public concern in China over genetically modified organisms (GMOs), Coca-Cola has eliminated genetically modified corn from its corn syrup – a practice it has not adopted worldwide. Coca-Cola thereby managed to stay off Greenpeace Beijing's hit list of companies that use GMOs.

Corporations can take a more proactive approach by creating programs to build facilities and develop technologies that China requires for environmental protection. Such projects potentially offer foreign firms opportunities not

Upgrading the technology used to paint Barbie's eyes resulted in a cleaner environment for Mattel's Chinese workers and reduced hazardous waste in the manufacturing process.

necessary, but the second approach holds the greatest potential payoff because companies can leverage the green solutions they implement in China elsewhere later on.

On the defensive side, firms should take advantage of industrywide standards that can help avoid negative publicity. Apple recently learned this lesson the hard way. The computer maker had declined to join a consortium of electronics producers, and during the summer of 2006 it encountered a firestorm of negative press in and outside China for the living conditions of employees at Foxconn, one of its suppliers. Hewlett-Packard, which also sourced from Foxconn, avoided the negative press because, following guidelines set by the consortium, it had repeatedly and insistently audited its particular Foxconn suppliers to ensure that they met industrywide standards.

Another defensive posture is to figure out how to reduce the firm's environmental footprint in China. Both Hewlett-Packard and Mattel have put in place long-term strategies not only to improve their own compliance with local environmental standards but also to require their suppliers to adopt their global corporate standards. Throughout their supply chains, they are trying to pass along knowledge, particularly in the areas of recycling more and using less. Mattel

only to reap profits but also to burnish their environmental reputation in China, while upgrading their own green technology capabilities. Companies can find it worthwhile to work with Chinese scientists and entrepreneurs to develop and improve relevant production processes and products. They can also sponsor community-oriented environmental programs in conjunction with the Chinese government and with foreign and local NGOs.

This proactive approach makes good global sense. The United States and other advanced industrial countries often have legal and regulatory requirements that make testing new green technologies prohibitively expensive. China may offer a better opportunity to try out new techniques, which can then find significant markets in the United States and elsewhere.

Some major firms have begun to seize this array of opportunities. General Electric has adopted a multitiered effort, which reflects its global Ecomagination initiative and also takes advantage of China's booming need for energy-related infrastructure development. GE is committed to reducing greenhouse gas emissions in its operations by promoting energy efficiency in several ways: through a joint initiative with Wal-Mart to sell 50 million compact fluorescent lightbulbs;

by advancing alternative fuels through wind power projects; by providing more fuel-efficient aircraft engines and locomotives; and by working closely with the Chinese government's National Development and Reform Commission to upgrade the national infrastructure. At the same time, GE is working with Chinese scientists in Shanghai to develop clean coal, water purification, and water reuse technologies. While these innovations will initially be designed to serve the local Chinese market, the longer-term goal is to extend their use to the rest of the world.

Royal Dutch Shell has also focused on adopting environmentally sustainable approaches to helping China develop its economy. In its initial joint venture efforts with PetroChina to bring gas from Xinjiang to Shanghai, for example, Shell completed an exhaustive environmental impact assessment that went far beyond PetroChina's initial study. As a result, the pipeline was rerouted around biodiversity hot spots. What's more, Shell's Nanhai petrochemical facility

Coca-Cola won the Mother Earth Award from the Chinese government for its environmental contributions. These efforts link major multinationals conspicuously to one of the national government's major goals and to a widely popular cause among Chinese citizens. Garnering national government recognition as an environmentally friendly company makes it far more likely that localities throughout the country will approve multinationals' project proposals. Appropriate government and public relations efforts thus enable multinational companies to do very well while they are doing a great deal of good.

...

China's governance system provides few incentives – either political or economic – for local officials and company leaders to adhere to the country's environmental regulations. Environmental awareness throughout most of the country remains relatively low, and the NGO sector, though vibrant and growing, remains small. Laws and regulations in the

It's smart to think proactively about how to create a reputation as a clean company that helps China develop its economy in environmentally sustainable ways.

reuses or otherwise recycles almost 90% of the liquid and solid waste it produces for power generation, and the complex consumes as much as 25% less water than comparable Chinese facilities.

It is smart to think proactively about how to create a reputation as a clean company that helps China develop its economy in environmentally sustainable ways. One approach is to sponsor environmental education. Shell is making unparalleled efforts in this area. Over the past several years, Shell has, among other initiatives, sponsored a competition for school children to develop environmental projects in several Chinese cities, which so far has engaged more than 300,000 students. Shell has also formed partnerships with Chinese NGOs such as Friends of Nature and Global Village of Beijing to support their environmental education efforts. Coca-Cola, likewise, sponsors a rain-harvesting project in Ningxia and an educational campaign stressing water conservation and recycling wastewater, which has reached 100,000 students in Beijing alone.

Such efforts have stood foreign companies in good stead with both China's government and the public. International partners that contribute to meeting or exceeding the government's environmental goals are acknowledged with awards and media tributes. Shell, for example, received a CCTV Best Investor award for its Nanhai petrochemical project, and

country change frequently, making it difficult for multinationals to do long-term strategic planning in relation to new environmental technologies. Additionally, the Chinese government strongly prefers to keep much of the profit from such businesses at home.

Despite the challenges, multinationals can't afford *not* to do the right thing. Chinese government leaders, NGOs, and the media expect the international community to take the lead in environmental protection efforts – and will quickly and publicly pursue firms that don't. Environmental degradation, moreover, is producing risks and providing opportunities that must be factored into corporate strategies. In approaching this issue, companies must also consider the challenges and opportunities posed by China's underlying political economy. On the plus side, though, multinationals can often profitably leverage efforts made in China in other markets.

The bottom line is that environmental factors can seriously affect China's overall future trajectory. How well multinationals address these environmental issues will affect their fortunes in one of the most important growth economies in the world. 

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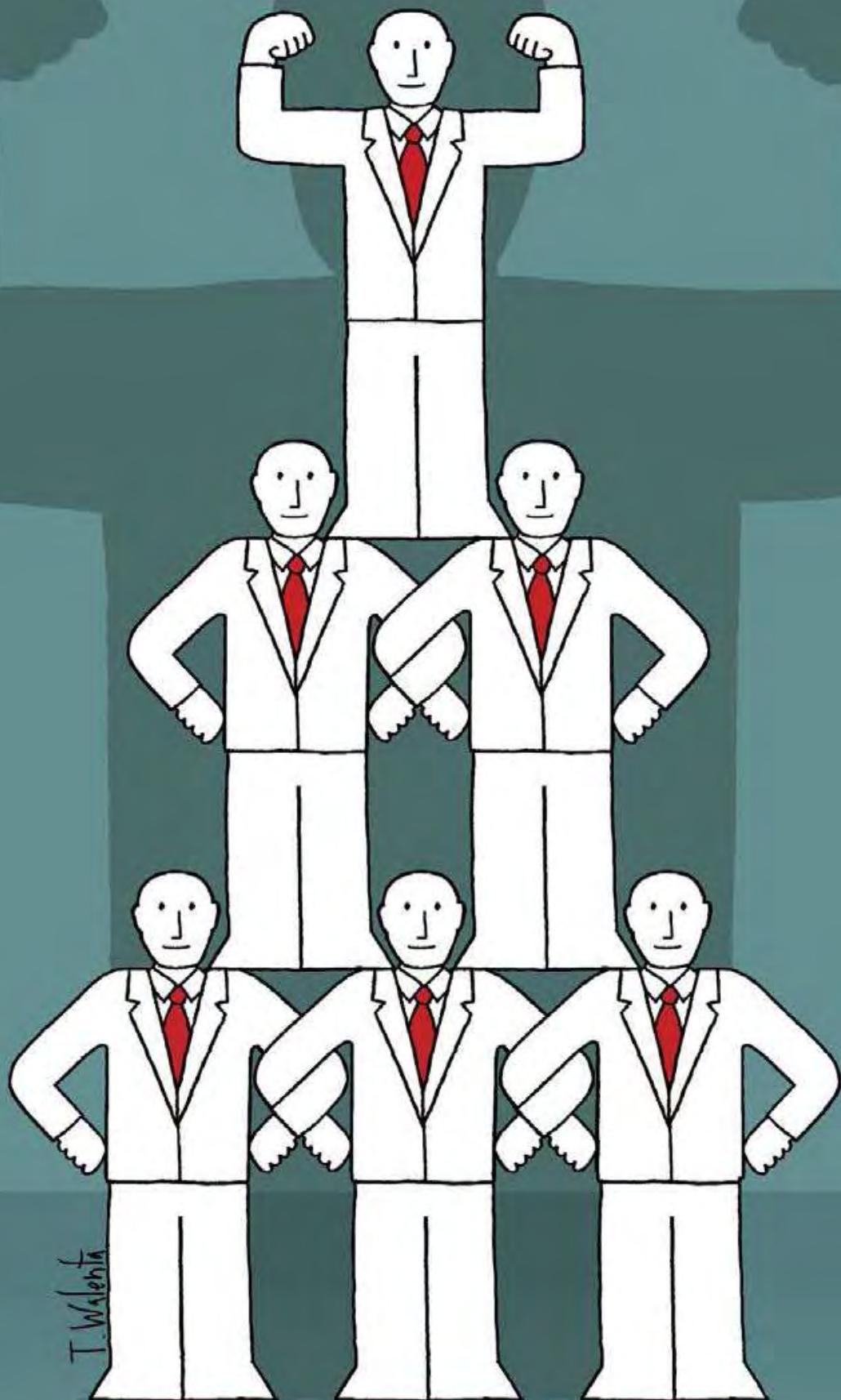
When a company changes its business model, its senior executives had better change the way they do business with one another.

The NEW DEAL at the Top

by Yves L. Doz and Mikko Kosonen

SENIOR EXECUTIVES AT SUCCESSFUL CORPORATIONS usually have a very clear idea of their roles and responsibilities and of how they relate to one another. They know how to work together effectively, and the result is a well-oiled operation. In the absence of this understanding, they may end up fighting over turf – focusing their attention on corporate power politics rather than on the joint mission of creating value.

Like many contracts, this tacit deal is periodically revisited. But if a new deal is made, often it differs from the old only in terms of who will run what part of the business. The CEO continues to set strategic targets and holds the heads of the main business units or functions accountable for achieving them. The unit heads operate like



semi-autonomous feudal barons, using considerable discretion to achieve their goals. It's not surprising that this model of delegated leadership is so durable. Most executives enjoy being their own bosses, and they've grown to expect autonomy as a perk of high office.

That's no problem for companies in stable industries, where the sources of value are clear to all. But for many companies the major growth opportunities straddle traditional

between the various parts of their organization, motivating themselves to engage with one another rather than work in splendid isolation. To ensure that collaboration materializes, they manage their dealings carefully. New-deal collaboration is characterized by frequency, intensity, informality, openness, and a focus on shared issues and the long term. Challenges to conventional thinking are encouraged – as are challenges and criticism from outside the ranks of the

Authoritative CEOs find the new deal particularly difficult, because it requires them to openly accept – even encourage – challenges to their thinking.

market domains and challenge internal organizational boundaries. Digital convergence has created new opportunities for hitherto separate markets and feeds the growing desire among consumers for integrated solutions and services. This calls for the development of integrated – or at least commonly orchestrated – strategies and actions across business units. Investors' preference for companies with a clear strategic advantage, and fund managers' growing skepticism about portfolio companies, adds to the pressure. But delivering on an integrated strategy is practically impossible when business units are run as fiefdoms. Companies that are facing challenges related to convergence and changing customer demands desperately need an entirely new kind of deal at the top.

For the past three years we have undertaken in-depth case research on the strategy and leadership of a dozen large companies around the world – including Canon, Cisco, Hewlett-Packard, IBM, Nokia, and SAP – that wanted to find a way to integrate value creation without losing the benefits of entrepreneurial growth initiatives. Our goal was to understand what makes a company strategically agile – able to change its strategies and business models rapidly in response to major shifts in its market space, and to do so repeatedly without major trauma. One of our principal findings is that strategically agile companies have forged a new leadership model at the top.

As we'll see in the following pages, senior executives at new-deal companies assume collective – not individual – responsibility for results. They do so by building interdependencies

top team, so that the group's dynamics won't cut off its members from the rest of the company. Let's begin by analyzing in more detail how the new deal differs from the old.

What the New Deal Is and Why It's Hard to Strike

Ask change management experts about leading change, and they will almost always answer in terms of organizational and social engineering – calling for new faces, recommending that power be redistributed (from, say, manufacturing to marketing), and inevitably advising that the company's measurement and reward systems be overhauled to redirect priorities. Make these changes, the experts will tell you, and strategic redirection will follow. We don't dispute this conventional wisdom; most firms undergoing a transformation will have to implement all these changes. Our experience tells us, however, that they are only part of the solution. In the more successful companies we studied – those that not only got out of trouble but also stayed out – the top executives' behavior had fundamentally changed. The exhibit "The Old Deal and the New" summarizes the main differences between teams before and after the change.

Under the old deal, unit or division heads typically assume responsibility for delivering their units' results. To be sure, they usually have a big financial stake in the company's performance as a whole (they have stock options, after all), but they perceive themselves as a sort of baseball team, in which every player has a distinct role. If one player consistently fails to perform up to expectations, the manager will draft a replacement. In a new-deal company, however, each unit

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head feels responsible for the performance of other units as well as for her own and actively looks for ways to help them deliver. If a division is struggling, its problems are not necessarily attributed to the division head – nor is solving them considered purely his duty. The team as a whole brainstorms to arrive at a solution. Of course, the head of the struggling division will implement the agreed-upon strategy – collective responsibility for strategy does not mean collective responsibility for every decision.

A team that has collective responsibility for strategy has an interest in exploiting interdependencies. Claus Heinrich, an executive board member of SAP and the director of global human resources, puts it like this: “If I see Léo [Apotheker, a fellow board member and the head of customer operations] doing a great job, I say, ‘Wow, great!’ I am quite willing to subordinate some of my own priorities to help him achieve the common goal.”

Implicit in the baseball team model is the assumption that a good team is essentially a collection of high-performing specialists. Thus team members’ ability to help one another is obviously limited, weakening any sense of mutual responsibility. When a pitcher is off form, you don’t expect your designated hitter to be of much help. That’s probably why senior executives at new-deal companies tend to be all-rounders; each unit head is likely to have personal experience with the kinds of problems faced by his or her colleagues. Everyone on the team can therefore give as well as take advice, which in turn makes it easier to accept collective responsibility.

Attractive as the new deal sounds, striking it is never easy, because it requires behaviors very different from those that most executives are comfortable with. That’s why many companies never get beyond making the resolution to change. As the CEO of one large U.S. chemical company describes it, “In the executive committee we have these polite exchanges, everyone agrees publicly, and we leave with a warm feeling of consensus. Nothing happens, and then I hear that as soon as they were back in their offices, some group VPs started complaining about misguided corporate decisions and essentially discouraged their own subordinates from any wholehearted implementation. It’s a case of public consent but private dissent.”

Let’s look more closely at the dynamic. The rather Darwinian selection process on the corporate ladder at most firms favors independent types with a deep need for power and autonomy. In the absence of a

strong value system and a collaborative culture to temper this need, such people will naturally tend to carve out territories in which they can enjoy a high degree of autonomy and clear accountability. They generally favor having direct reports in specialized roles who meet with them one-on-one. This is simpler for them and, on the old principle of divide and rule, enables them to protect their power base. As they rise through the corporate hierarchy, they carry the preference with them and reinforce it; as unit chiefs they are used to having the CEO deal with them as the individuals responsible for their particular units. Their communications with the CEO are conducted privately.

Of all the executives on the top team, the CEO has perhaps the greatest adjustment to make in striking a new deal. Authoritative CEOs find it particularly difficult, because the new deal requires them to openly accept – even encourage – challenges to their thinking.

The most obvious effect of the old leadership style on the decision-making process is that executive team meetings become highly ritualized, and little time is allotted for free-flowing exchange. The respect for specialization, whereby each member of the group has her or his own area of expertise and defers to others in other areas, kills any possibility of true dialogue. The implicit ground rules are of the “Don’t tread on my turf, and I won’t tread on yours” variety. In other words, meetings are built around avoidance behaviors. Disagreement is expressed in private or passive-aggressively, eroding any real sense of belonging to a team. Of course, people from different parts of a large diversified firm always have to collaborate to some extent. The top teams at old-deal firms, however, tend to manage those collaborations not by

The Old Deal and the New

THE OLD DEAL	THE NEW DEAL
• Individual responsibility for unit performance	• Collective responsibility for corporate performance
• Independent units pursue separate business strategies	• Interdependent unit heads integrate corporate strategy and value creation
• Financial measurements and controls; delegation of strategic choices	• Transparent measurements demonstrating how interdependencies improve performance; substantive strategic dialogue by the top team
• Functional and unit-specific expertise	• Overlapping experience and responsibility
• Results-oriented: emphasis on outcome control	• Values-oriented: emphasis on normative control (promoting internalized rules for behavior)

developing shared commitments but by individually negotiating private side deals before team meetings. The meetings themselves become tightly scripted events that merely rubber-stamp the preexisting agreements.

To break out of this default mode, senior executives must recognize the need for collaboration and also commit to it. This involves developing and articulating a corporate value creation logic, or business model, to which all can subscribe. Sometimes companies can achieve this by framing the new deal as “returning to our true roots”; Lou Gerstner’s vision of IBM as a service integrator – harking back to the heyday

overall strategy. By definition, the units can’t possibly stand alone at the executive committee level.

This mutual dependence has improved the quality of SAP’s top-level meetings, where discussions are still remarkably informal and frank, despite the company’s size and complexity. Claus Heinrich says, “When I joined the board, I was impressed by how open the discussions were there. To create openness and collaboration, it’s not the props, tools, lunches, etc. The real recipe is to discuss first as a team at the top. We like each other, but we are really tough with each other in discussions. We work as a team on all matters – not with

Old-deal meetings are built around avoidance behaviors. Disagreement is private or passive-aggressive, eroding any real sense of belonging to a team.

of mainframes – is a good example. Hewlett-Packard went through several attempts to define its *raison d’être* before settling on the idea of being – in the words of CEO Mark Hurd – “the world’s leading IT infrastructure company,” serving *Fortune* 100 companies, homes, and people on the move. This statement of purpose is an integrative umbrella for HP’s diverse activities. Of course, the more focused the company, the easier it is to develop and communicate the mission.

Fostering Mutual Dependence

Beyond intellectual understanding of a fresh business model and even emotional commitment to it, switching from the old deal to the new almost always requires a huge shift in the company’s culture, values, and norms of interaction. The companies in our sample that made the shift successfully all introduced organizational changes at the top that established a degree of mutual dependence between previously independent parts of the business. By doing so, they forced unit heads to reengage with one another, which over time created a sense of shared mission and respect for the contributions of other units. In making the shift, most of the new-deal adopters we studied took one of three approaches.

Value chain or functional focus. Companies with relatively focused business portfolios can foster engagement among senior executives by simply abandoning the stand-alone unit as the organizing principle of the top team. They can give the executives formal responsibility not for a business unit but for different stages or links in the company’s value chain. SAP did that as part of its 2005 reintegration into a unified organization. Each senior executive took responsibility for just one step in the value chain; now the entire senior team has to collaborate closely on developing and implementing

the attitude, for instance, of ‘I am HR, so I should stay out of product development.’ If I disagree, I have something to say, no matter where I come from or what I am in charge of.”

Cisco has gone in this same direction by organizing its top team along purely functional lines. The head of R&D at Cisco is responsible for all product lines and common technologies; the head of sales and marketing owns all regions and industries; the head of customer advocacy runs the care and services businesses; and the head of operations is in charge of all cross-functional processes, such as logistics and sourcing. Like SAP, Cisco has experienced higher-quality exchanges at the top since it adopted this model.

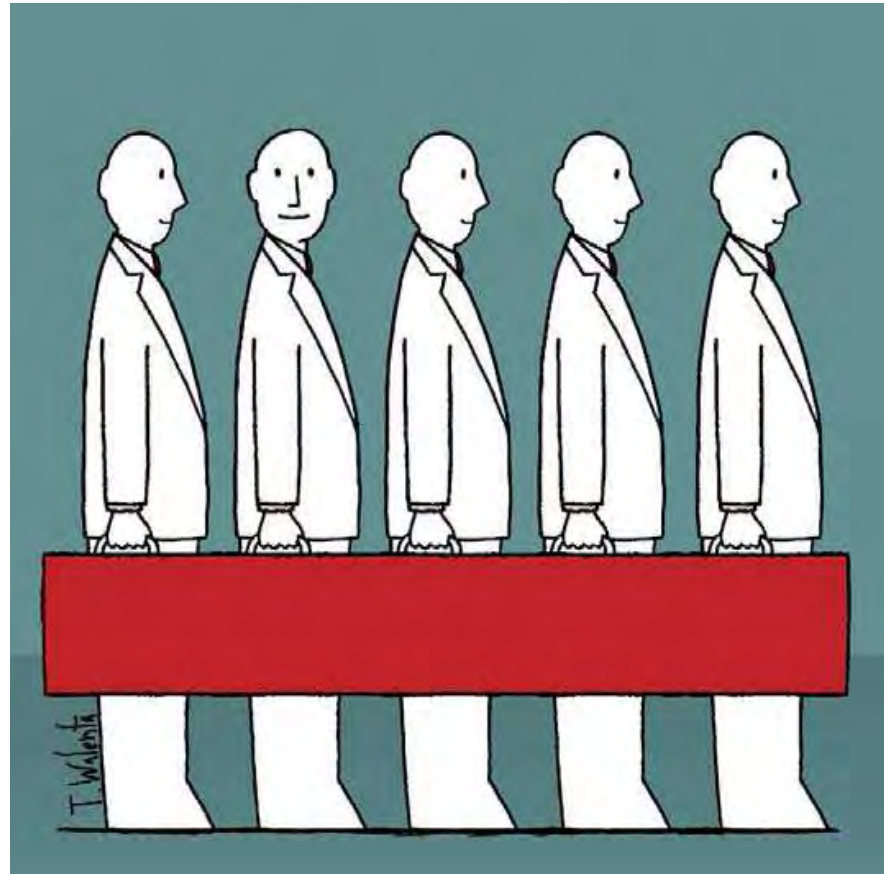
Business groups and shared resources. Companies whose business portfolios are less focused than Cisco’s or SAP’s can’t always go as far. They take a lighter approach to integration and collaboration. Such companies may find that organizing on a matrix, with crisscrossing business and functional units (all represented on the top team), makes more sense. Nokia took that approach in its 2004 reorganization. The company divided into four business groups: mobile phones, multimedia, enterprise solutions, and networks, each with global P&L responsibility. These vertical groups were served by two horizontal groups – customer and market operations, and technology platforms – and a number of other common corporate support functions and processes. The horizontal groups and functions, with their companywide knowledge of asset needs, were mandated to probe and challenge as well as to support the vertical units. The customer and market operations group, for example, developed a common account-management structure for all of Nokia.

Like any matrix, Nokia’s new structure entails a certain amount of bureaucratic overhead, but this is more than

offset by the top-level collaboration it has engendered. The heads of the business units realize that they are dependent on the support and contributions of the heads of the horizontal units, and this produces a healthy flow of ideas between the two groups. Nokia also assigns individual unit heads corporatewide responsibility for such assets as the brand, major global customers, and relationships with strategic partners. The quality of dialogue at the top has been noticeably affected, because key line managers now play a corporate role in all executive board meetings. (Their specific unit agendas are discussed primarily in business group boards.)

Common business models. Companies that are seemingly widely diverse are likely to emphasize the shared learning opportunities provided by common business models across different businesses. Easy-Group, for instance, may appear at first to be a travel and leisure conglomerate, with an airline, cruise ships, budget hotels, car rentals, and so forth. To its founder, Stelios Haji-Ioannou, it's anything but a conglomerate: It's a single business model – involving low-priced services of a scheduled, and thus perishable, nature; low costs achieved through particularly effective dynamic-pricing and yield-management practices; distribution on the Internet; and mobile, redeployable assets – leveraged across a whole range of opportunities. Common learning about these elements, particularly dynamic pricing, yield management, and innovative approaches to cost reduction, provides the basis for a corporate business model. In a physical reflection of this model, the company office is a huge round room (actually a former train depot) called the Rotunda, in northern London, where key executives and their respective business teams sit together, with Stelios and his staff in the middle. At the end of every workday the group carries out a joint review of all businesses in a meeting room next door. One caveat with this approach, however, is that companies must take care not to overlook the specifics of each business or ignore the deeper understanding needed to run it successfully. This stumbling point may have tripped up easyGroup, which has faced difficulties. Nevertheless, the logic behind easyGroup's emphasis on shared management processes remains strong.

These three approaches are not the only ways to promote mutual dependence, though they are the most com-



mon in our experience. Whatever approach you adopt, you would do well to compensate senior executives for any loss of autonomy by giving them corporatewide responsibility for the function, business model, activity, or other issue they take charge of. The reallocation of responsibilities also allows a CEO to engineer an organizational power shift. Assigning an important corporate responsibility to the head of the smallest business unit, for example, may help neutralize the power advantages that accrue naturally to the heads of larger units.

Working Together

Adopting an integrative model for the top team is only part of making the new deal work. You can create organizational interdependencies, but unless you put the right processes and practices in place, interactions at the top will quickly prove dysfunctional. As many experts – including Michael Mankins, the author of “Stop Wasting Valuable Time” (HBR September 2004) – have demonstrated, it's all too easy for top teams to fritter away the time they spend together. IBM in the 1980s gave up on exploiting its interdependencies partly because it had lost the ability to manage them.

We'll conclude by looking at how companies ensure that the top teams in new-deal models will function well.

Focus on corporate issues. The CEOs in the companies we studied were very particular about what went on the agenda for executive team meetings. IBM's corporate executive committee, put in place by Lou Gerstner in 1993, did not permit business units to delegate problem solving upward. Nor did its members sit through presentations and make decisions in review mode for the business units. It focused solely on policy issues that cut across multiple businesses. Similarly, Nokia's strategy development staffs are assigned to collectively create and maintain a list of the ten or so most important corporate strategic issues to be put before the monthly strategy panel meeting. That helps senior executives to learn about emerging strategic issues and to respond to them in a proactive and, more important, collective manner. Jarkko Sairanen, Nokia's head of corporate strategy, explains: "Having a corporatewide agenda makes top team members focus on common challenges instead of specific subunit agendas."

Keep the dialogue informal. Senior executives at successful new-deal companies are comfortable with direct, informal dialogue. HP and IBM put their top team members on one floor in a largely open layout, in the same spirit as at easyGroup, to ensure casual and frequent contact. At Canon, CEO Fujio Mitarai holds a meeting from 8:00 to 9:00 every morning. These meetings have no actual agenda, but a lot of information is shared at them, and a number of decisions are at least implicitly made. "It's not a meeting that executives will choose to miss," says Kunio Watanabe, the head of corporate planning development at Canon. Even formal meetings at these companies have a deliberately informal tone.

Make time for reflection. Inevitably, top team members spend a lot of their time at regular meetings discussing ongoing issues and initiatives. But it's their speculative strategic discussions that are most valuable to the company, which is why new-deal top teams often attend off-site meetings together. Henning Kagermann, the CEO of SAP, makes a point of holding quarterly off-site meetings with his executive board. At Nokia's off-site meetings senior executives talk about their corporate goals, which helps ensure mutual understanding and respect for the efforts, contributions, motives, and ambitions of everybody in the group. Informal, spontaneous interactions over time are also essential.

Keep a fresh perspective. At many successful new-deal companies the top executives are lifers, which builds trust and reduces territoriality, but can mean that the executives all think alike. SAP has opened its executive ranks to outsiders over the past six years, and curtails territoriality by using the Corporate Strategy Group, a strong internal consultancy team, to prepare decision topics and present new ideas that challenge the top team's thinking. Kagermann maintains that the consultants provide the dispassion and rigor necessary for continual improvement in the executive board's decisions. He has them report directly to him in order to preserve their neutrality vis-à-vis the senior executives.

Put the CEO in a subordinate role. There's often a risk that top managers will defer to the CEO, especially if he or she is strong. To avoid this, some CEOs deliberately assume a subordinate role. IBM CEO Sam Palmisano replaced the company's corporate executive committee with three teams: one for strategy, one for operations, and one for technology. To get the best from these teams, he had to learn to play multiple roles in the same meeting. He doesn't chair any of the teams but acts as an ordinary participant, so as not to stifle debate in their meetings – especially those that focus on long-term planning. Sometimes Palmisano plays the role of an intellectual equal in a dialogue; sometimes he is reluctantly first among equals when decisions are made. As other senior executives become accustomed to assuming more leadership of the top team, the CEO can step back from day-to-day issues to think about where the company's long-term future lies.

Establish transparent accounting and performance measurement. Interdependent collaborative relationships are usually complex. At worst, this enables people at the top to play political games. At best, it invites organizational skepticism: Executive team members get so involved with their interrelationships and strategizing that their juniors lose interest in new initiatives, effectively guaranteeing failure. To avoid this, top teams have to put in place transparent accounting and performance measurement systems that demonstrate exactly how much their interdependence contributes to performance. At the same time, they must mitigate the risk of a return to political game playing by creating checks and balances, with horizontal integration approaches like Nokia's shared resources and infrastructure. The personal exposure that comes with frequent meetings and off-sites, open spaces like easyGroup's Rotunda, and interdependent shared agendas also curtails hidden agendas and clique behavior.

...

When people challenge models of delegated leadership, they are quickly criticized for advocating centralized control. What we propose here is anything but that. Centralized organizations have authoritarian leaders who probably look outside the company for advice and expect management simply to execute on any new vision. Groupthink is a goal, not a problem, for centralized organizations. They have few mechanisms for voicing dissent or new ideas internally – certainly nothing resembling IBM's three teams. New-deal CEOs, however, aren't authoritarians. And new-deal companies prize diversity and debate – not only at the top but all the way down the organization. Far from seeking to diminish the authority of senior executives, they try to extend it across the corporation. The model isn't easy to apply, but companies that can do so will be much likelier than their old-deal rivals to survive the vicissitudes of the new-deal economy. 

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THE SOPHISTICATED INNOVATOR

WHO OWNS INNOVATION? Even in companies for which innovation is a strategic imperative, the job of managing it tends to be defined narrowly. Innovations are mostly treated as discrete projects, whether what's new is a product or service, a revamped process, or a commercial innovation such as a new sales channel. Rarely do executives examine their company's *innovativeness* – the capacity to conceive, develop, roll out, and improve new offerings – as a whole. Surely, however, the value of a systemic view is enormous. Many classic innovation failures – for instance, Xerox's notorious inability to take advantage of the intellectual fecundity of its Palo Alto Research Center – are examples of systemic deficiency, where the whole is less than the sum of the parts. Others, such as the fact that disruptive technologies are almost never developed by established players in an industry or product segment, speak in part to firms' not drawing from external sources of innovation or providing the right capital structure to support internal work.

The two articles that follow, "A Buyer's Guide to the Innovation Bazaar," by Satish Nambisan and Mohanbir Sawhney, and "The Innovation Value Chain," by Morten T. Hansen and Julian Birkinshaw, both address the mistaken tendency to look at just part of the innovation process. They do it from very different perspectives. Professors Hansen and Birkinshaw argue that a company's ability to innovate is only as great as the strength of the weakest link in its "innovation value chain," in-

cluding all the elements of idea generation, conversion, and diffusion. Professors Nambisan and Sawhney are most interested in examining the various ways in which innovation can be sourced. As they point out, there are many ways to find and fund innovation: internally, of course, but also through various intermediaries, from idea scouts to venture capitalists. Only senior executives have the perspective to improve returns by working with a company's entire innovation-sourcing portfolio.

Both pairs of authors suggest that the current excitement about open innovation may obscure the important need to parse innovation activities more carefully: (1) into distinct temporal stages, including but not limited to the generation of ideas outside the organization (Hansen and Birkinshaw); and (2) into distinct types of external innovation sourcing (Nambisan and Sawhney). People's tendency to focus on a single innovation concept – just one *stage* of the innovation process, such as external idea generation, or just one *type* of external innovation sourcing, such as P&G's "connect and develop" model (see Larry Huston and Nabil Sakkab, "Connect and Develop: Inside Procter & Gamble's New Model for Innovation," in the March 2006 issue of HBR) – can end up doing a lot of harm. If you don't manage your innovation efforts with an eye to these articles' different but related approaches, open innovation will become a silver bullet aimed right at your foot. By contrast, companies that take a systemic view will find their capacity to innovate so enhanced that they leave rivals in the dust.

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A Buyer's Guide to the Innovation Bazaar

More and more companies are shopping outside their organizations for innovation, whether it's raw ideas or market-ready businesses. Here's how to choose what's best for you from among the array of offerings.

by **Satish Nambisan and Mohanbir Sawhney**

AS COMPANIES DISCOVER the tremendous value to be gained from tapping into external sources of innovation, many seek to emulate the success of some particularly compelling and well-publicized initiative. It might be Procter & Gamble's Connect + Develop, in which the company uses online R&D marketplaces and other intermediaries to identify and acquire ideas and technologies from independent inventors; or Intel Capital, through which the chip maker invests in technology start-ups and spurs innovation that enriches its business ecosystem overall; or Concept Lounge, an interactive forum set

up by Nokia to find and acquire innovative and futuristic product concepts directly from independent designers.

But to seize upon one of these successful programs as a model is to misunderstand how to source innovation from outside your organization. There is no single best method for doing this. Numerous useful approaches – each with different attributes and benefits – are on offer in the global marketplace for new ideas, products, and technologies.

We call this marketplace the “innovation bazaar.” Like a traditional bazaar, it can be chaotic and bewildering. The dizzying array of wares ranges from raw ideas and patents to market-ready new products. And they are touted by all kinds of hawkers, from idea scouts to business incubators. Just contemplating a plunge into the hurly-burly of this space can be daunting.

Article at a Glance

No single best method exists for sourcing innovation from outside your organization. Even the most experienced shoppers in the “innovation bazaar” can profit from a guide to its wares and the intermediaries that sell them.

The external sourcing continuum shows at a glance what the trade-offs are – in terms of cost, risk, breadth of choice, and time to market – when companies lean toward raw ideas or market-ready products.

Those choices, however, are at the extremes of the continuum. In the often overlooked middle lie market-ready ideas, developed by a new kind of intermediary called the innovation capitalist.

Innovation capitalists seek and assess product concepts in the inventor community; develop and refine those concepts to the point where they can be evaluated for manufacturing feasibility and commercial potential; and market the results to companies whose needs and capabilities they understand.

Indeed, our conversations with senior managers at more than 30 major corporations suggest that although most companies have come to understand the importance of looking outside for innovation, they have serious misgivings about how to do it. The success stories notwithstanding, smart executives know that what works for a P&G or an Intel may not be appropriate for a DuPont or a Microsoft. But how should they shop for the innovation offerings that will work for them?

We offer here a conceptual guide to navigating the innovation bazaar and making wise selections from the various vendors. With this guide in hand, companies can meet their particular needs by putting together a balanced mix of offerings based on the external market context and their internal capabilities. We also introduce a new kind of intermediary that can help companies improve the effectiveness of their innovation sourcing efforts.

The External Sourcing Continuum

We have organized the possibilities for externally sourcing innovation along a continuum defined by four variables: the *reach* that companies have as they cast about for innovative ideas to assess; the *cost* of acquiring and developing those ideas; the *risk* involved in trying to turn them into marketable products; and the *speed* with which the ideas can be brought to market. (See the exhibit “The External Sourcing Continuum.”)

Let’s begin with two clearly distinct alternatives for strengthening the innovation pipeline outside your organization. You can shop for relatively undeveloped ideas or patents and then invest in their development and commercialization. Or you can shop for products, concepts, and technologies that have been developed into market-ready offerings. These alternatives – which often require the involvement of an intermediary – define the two ends of our continuum. The unexploited middle holds a third alternative, which we will explore below.

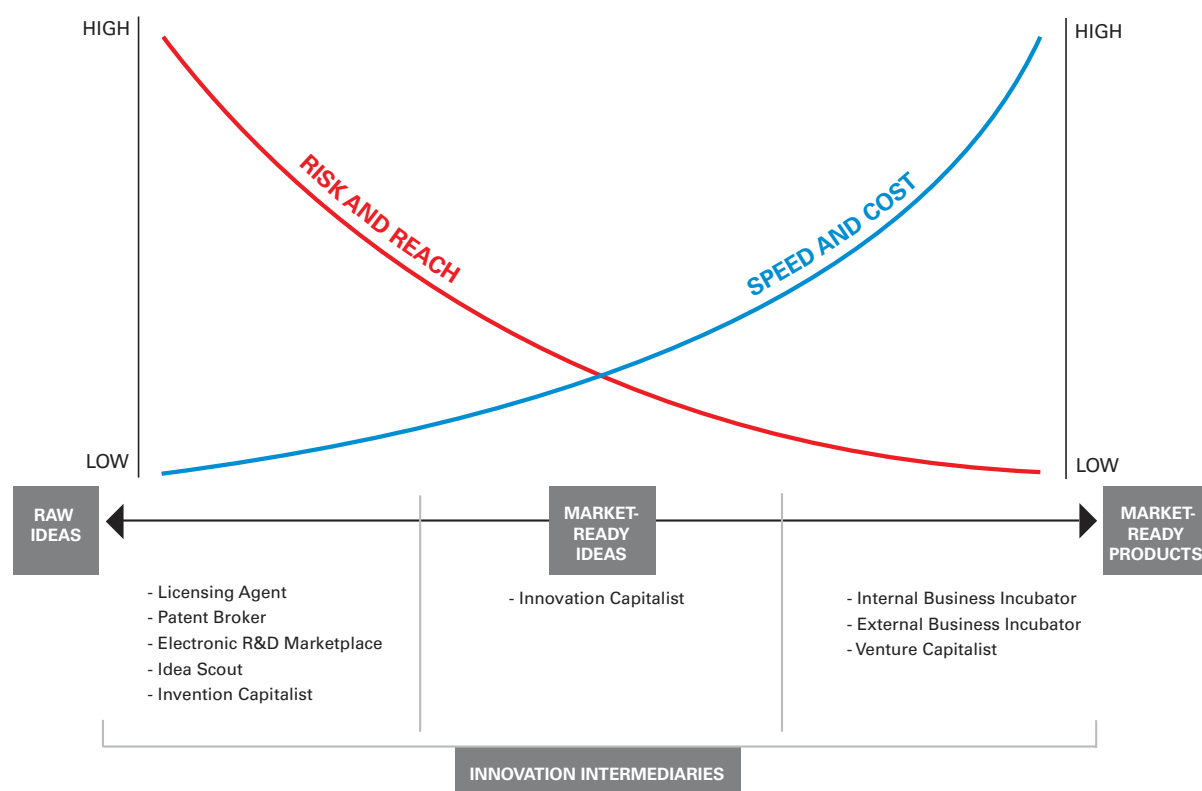
Shopping for raw ideas. One approach to sourcing innovation is to reach out directly to independent inventors. Consider the Partners in Innovation initiative launched by Dial, the makers of Dial soap, Purex laundry detergent, and other consumer products. The initiative originated as a Web site where inventors could submit patented ideas that Dial would then evaluate for commercial potential. In 2004 Dial, a subsidiary of the German manufacturing conglomerate Henkel, expanded the initiative with a contest for independent inventors called “Quest for the Best.” Contestants were invited to submit patented (or patent-pending) ideas in certain product categories. The company worked with the United Inventors Association, a national body for independent inventors, to publicize the contest and give it credibility in the inventor community. A panel of judges within Dial screened the hundreds of submissions and narrowed them down to 60. Each of the semifinalists was then allowed to pitch his or her idea in a five-minute video that focused on how it might lead to a product different from and better than existing ones. Dial chose ten finalists and invited them to its corporate campus to present their ideas to senior executives. Three of the ten ideas were selected as winners and given a more formal market evaluation and feasibility analysis. In the end, Dial identified one or two as commercially attractive and well suited to its product portfolio.

Dial has continued with the contest, and several of the winning proposals, in categories ranging from personal care to household goods, are currently working their way through the company’s product development pipeline. But Dial got more than some potential products. By working directly with the inventor community – for whom its motto was “Think of Dial first” – the company also established itself as a preferred portal for new ideas.

Looking for independent inventors with marketable ideas can be a needle-

The External Sourcing Continuum

Companies can shop for innovation in various stages of development – from raw ideas to market-ready products – with the help of a variety of intermediaries. At the two ends of the continuum, however, there are trade-offs: Sourcing raw ideas costs less and allows a company to increase its reach (the number of options it is able to consider) but involves higher risk and a longer time to market. The reverse is true for acquiring market-ready products. The middle of the continuum offers balance among the four factors.



in-the-haystack quest. Many companies, to improve their reach and their filtering process, rely on innovation intermediaries to find inventors. These include idea scouts, which seek and screen ideas in the inventor community on behalf of large firms that then review them for commercial potential; patent brokers, which bring together inventors and firms that are interested in commercializing their patents, without rep-

resenting either side; licensing agents, which broker the licensing (rather than the sale) of patented technologies; and “invention capitalists” (a term used by Microsoft’s former chief technology officer Nathan Myhrvold), which buy patents from inventors and then sell them to companies, sometimes bundling patents related to a particular market opportunity. In addition, electronic R&D marketplaces, such as Inno-

Centive, NineSigma, and yet2.com, can help match companies with promising ideas or patents.

Staples, the office-supplies retailer, has effectively employed intermediaries in its search for inventions. Over the past few years the company has been aggressively repositioning itself as an innovator of its own private-label products rather than merely a reseller of others’ branded or generic products.

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Realizing that it lacked internal innovation capabilities and that developing a large internal product development organization would take too much time and effort, the company engaged the idea scouts Big Idea Group and Product Development Group to identify promising ideas for commercialization, usually related to a particular theme or market (for example, filing and note-taking products) specified by Staples. The scouts are paid up front to conduct the idea hunt and may also receive a share of the royalties paid to the inventor when an idea is turned into a branded Staples product. The

Shopping for market-ready products. At the other end of the external sourcing continuum, companies can buy products or technologies that are ready for launch, often by acquiring not just the product but the company that developed it. Like the acquisition of raw ideas, this approach can be taken with or without the help of intermediaries – for example, venture capitalists or university-affiliated business incubators – that invest in or nurture new ventures with the aim of readying them for acquisition by large firms.

A classic example of this is Procter & Gamble's tremendously successful 2001

nal new-ventures groups that scan the external environment for investment and acquisition opportunities to complement their existing portfolios.

Some technology companies, particularly in the software sector, have sought market-ready products or businesses without the help of intermediaries – for example, by creating captive marketplaces or offering in-house incubation services for external ventures. By providing a platform and the resources for start-ups or independent innovators to develop and sell their product ideas, these companies can attract and get a close look at innovative concepts or businesses they might wish to acquire. Salesforce.com, a leading player in enterprise software applications for customer relationship management, has adopted both the marketplace and the incubation approach.

In January 2006 Salesforce.com created the AppExchange, an online marketplace for software products from external developers that would complement the company's own products. The AppExchange currently lists more than 500 on-demand applications – in areas ranging from finance to human resource management – which Salesforce.com's customers can find, try out, and acquire from the independent developers, much as users browse the iTunes Web site to sample and buy songs. The company calls the AppExchange an "eBay for on-demand business software." But the AppExchange is more than just a service for customers of Salesforce.com; it allows the company to identify attractive acquisition targets that would fit well into its core CRM product. Because it operates the exchange, Salesforce.com can track how often the applications are downloaded, what they sell for, and which ones get good reviews.

For example, in 2006 Salesforce.com acquired Kieden, a four-person company that had created an extremely popular add-on software that helps marketing managers analyze Google-driven Internet advertising campaigns

If your aim is to respond rapidly to market demand with new products, shopping for raw ideas means you'll have to be content to hurry up and wait.

process has yielded numerous products, including a distinctive new line of file folders and a padlock that employs letter rather than number combinations, so that it can be unlocked by a word.

By shopping for ideas, either directly with inventors or through intermediaries and electronic marketplaces, companies increase the range of ideas available for consideration. They typically return from such a shopping expedition, however, with ideas or patents that are a long way from being market ready. In such cases the significant market and technology risks can be mitigated only by further development and market testing. Companies may also need to spend considerable time and effort addressing scaling issues that crop up further along in development, such as whether a product can be manufactured cost-effectively in large quantities. If the aim is to respond rapidly to market demand by introducing new products – well, you'll have to be content to hurry up and wait.

acquisition of the SpinBrush Company, makers of a low-cost battery-operated toothbrush, from Nottingham-Spirk, a small product invention and development group. P&G acquired a fully developed and market-tested product, meaning lower innovation risk and faster time to market – but it had to shell out \$475 million for SpinBrush.

Relying exclusively on this approach also limits your options, because few ideas get far enough along the innovation pipeline to be market ready. Furthermore, when a company acquires a firm as well as a product, it may find that it doesn't need the routes to market, the sales organization, or the rest of the commercialization infrastructure surrounding the product concept; in fact, these may have to be discarded at a cost.

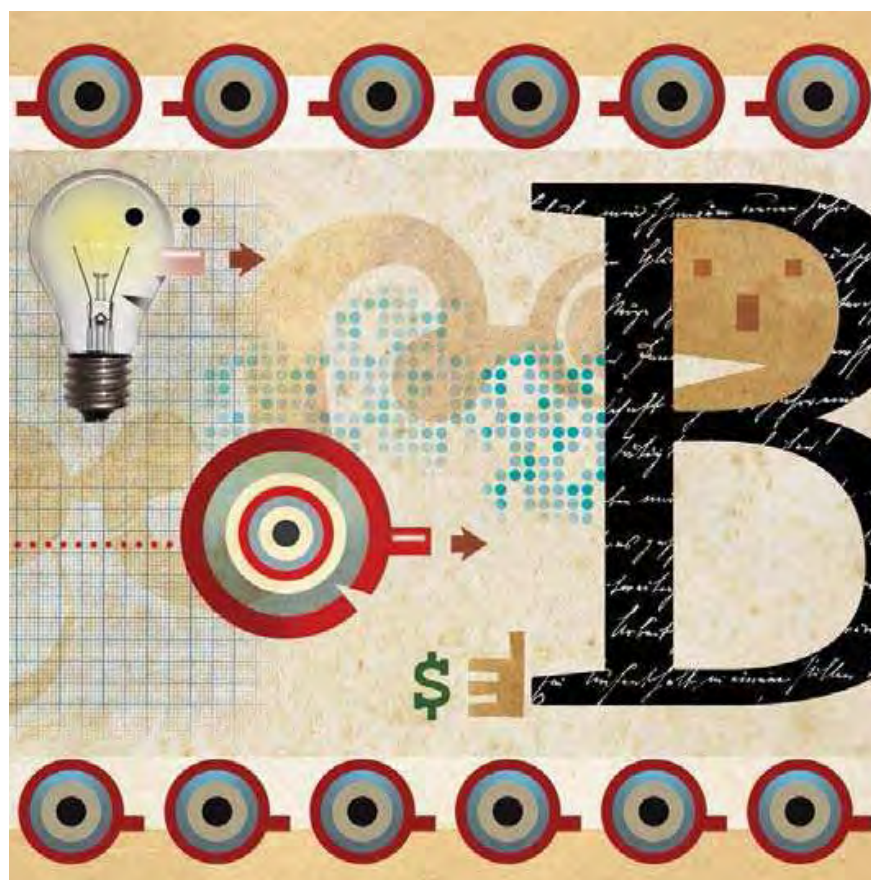
Even so, many large companies have traditionally acquired single-product entities in order to source innovation externally, particularly within the consumer products and technology sectors. For example, Unilever and DuPont, among a number of others, have inter-

and resulting sales leads. Kieden was able to develop a public beta version of the application and launch it on the AppExchange, where the number of downloads clearly demonstrated its strong market appeal.

Recently Salesforce.com launched another initiative—the AppExchange Business Incubator—to cultivate and promote the innovation activities of its complementary application developers. Although the company doesn't invest in the businesses, it provides facilities to house them. The first AppExchange incubator was opened in January 2007 in San Mateo, California, near the company's San Francisco headquarters. Partner companies rent space there for about \$20,000 a year, gaining access not only to communications and other infrastructure but also to technical support and business and marketing guidance. The primary goal of this initiative is to encourage companies to develop applications that complement Salesforce.com's core technology platform, but it also gives the company further opportunity to cherry-pick innovative applications for future acquisition.

These various means of buying market-ready or market-tested ideas—whether directly, through your own incubators, or indirectly, through venture capitalists and other intermediaries—have trade-offs that roughly mirror the trade-offs involved in acquiring raw ideas. The speedier time to market and lower innovation risk come with higher acquisition costs and a narrower range of options for consideration. These trade-offs may be acceptable in some contexts—particularly if a company is looking to quickly increase revenue or enter a new market—but they may be unnecessarily expensive in others.

The two approaches to external sourcing that we have examined so far offer companies a choice between raw ideas and fully baked products or companies. Depending on your situation, raw ideas may be too risky and fully baked companies may be too costly. A third alternative, which marries the



benefits and reduces the drawbacks of the first two, falls in the middle of the external sourcing continuum.

Shopping for market-ready ideas. Let's briefly explore the cooking analogy. To get yourself a meal, you can buy the raw ingredients and cook them or you can order the meal already prepared from a restaurant. Starting from scratch costs less and offers almost infinite possibility, but it takes significant time and effort. Moreover, there is no guarantee—at least for most cooks—that you will end up with a tasty meal. Ordering a meal ready-made avoids the effort and the risk of cooking and usually requires only a short wait. But it costs a lot more, and your choices are limited to what's on the menu. Recognizing these trade-offs, supermarkets now offer a fairly wide array of “step-saver meals” that leave the customer just a few simple tasks away from a nice meal that can be enjoyed at modest cost and with relatively little effort or uncertainty.

Similarly, a step saver is emerging in the innovation bazaar. It is enabled by a new kind of intermediary—the “innovation capitalist”—that differs from both the invention capitalists on the left end of the continuum and the venture capitalists on the right. Innovation capitalists can obviate the trade-offs typically inherent in outsourcing innovation.

Innovation capitalists operate in three stages:

Seek and evaluate. In the first stage the IC firm draws on its well-established relationships in inventor communities to identify and assess product concepts or other ideas with commercial potential. In contrast to the idea scout, which often puts on road shows for inventors, the innovation capitalist looks for promising opportunities through word of mouth and chases down the inventors behind them, frequently providing an on-the-spot assessment that the inventor can use to go back and improve on an idea.

The Differing Roles of Innovation Intermediaries

To acquire innovations along the external sourcing continuum, companies can engage intermediaries with different characteristics and roles.

	Invention Capitalist, Idea Scout, et al. Raw ideas	Innovation Capitalist Market-ready ideas	Venture Capitalist, Business Incubator Market-ready products
Core objective	To connect companies with independent inventors and patents	To connect companies with market-ready concepts	To connect companies with new ventures that have market-ready products
Function	Creates a brokering infrastructure in the raw-ideas market	Brings industry and market expertise to idea development	Brings market and financial expertise to new ventures
Value addition	Seeks out and filters new ideas	Creates market-ready concepts by building on and transforming raw ideas	Builds an organizational infrastructure around a new idea
Core competencies	• Cost-effective “sniff testing” of new ideas • Networking	• Front-end innovation management • Industry and market expertise • Relationship management • Intellectual property rights management	• Venture creation • Networking • Market expertise • Financial risk management
Risk assumed	None or little (patent-related risk for invention capitalist)	Risk associated with idea development	Risk associated with funding new ventures
Capital investment	None or little (patent-related investment for invention capitalist)	Limited (investment in concept development)	Substantial (investment in building new ventures)
Intellectual property rights	None or few (invention capitalist owns certain patent-related rights)	Owens a share of the IP rights	Owens a share of the venture (including IP)
Relationship with client company	Transactional	Long-term partnership	Transactional

Develop and refine. In the second stage the IC firm, after negotiating with an inventor to acquire partial ownership of an idea, will spend its own money to develop and transform

the idea into something that can be evaluated for manufacturing feasibility and commercial potential. In this assessment the innovation capitalist will typically draw on its own deep indus-

try knowledge and maintain a sharp market focus. The extent to which the idea needs to be massaged will vary greatly, depending on its nature, on the nature of the industry or market,

and on the nature of the likely client company.

Consider a project that one IC firm, Evergreen IP, pursued recently. An inventor brought in an idea for a collapsible plastic trash collector to be used in temporary situations such as parties, picnics, and community events. Although the concept was promising, the initial evaluation showed that it wasn't economically feasible. Evergreen funded some in-depth consumer research and concept work and realized that the inventor had identified a little-noticed problem that translated into a \$250 million product opportunity—even though the proposed solution wasn't the best way to tap into it. So Evergreen invested in efforts to substantially revamp the concept and make it commercially attractive. The resulting prototype has attracted serious attention from several large manufacturers.

Market. In the third stage the IC firm will offer the fully developed product concept to one or more interested companies—preferably ones with which it has an ongoing relationship. This stage requires a sophisticated understanding of the target companies' needs and capabilities along with expertise in the management and reasonable allocation of intellectual property rights.

For example, IgniteIP, another IC firm, recently assessed a new technology for removing heavy metals from water, which could reduce hazardous waste in the mining industry. The inventors had tried unsuccessfully to create a new business around the technology. When Ignite took over the project, it evaluated the market and decided that the greatest challenge lay in overcoming the mining industry's inertia around adopting a new technology like this. So, in addition to modifying the technology to clarify its potential, Ignite constructed an innovative licensing scheme that provided sufficient incentive for a client company to acquire the new technology and also ensured that Ignite and the inventors would receive sufficient return on their investment.

Innovation capitalists attempt to optimize the four variables—reach, cost, risk, and speed—that define the external sourcing continuum. They provide client companies with access to a broad range of innovative product or technology ideas that are nearly market ready, thereby both mitigating early-stage innovation risks and lowering the time to market without significantly increasing acquisition costs. In return, they expect a share of the revenues that client companies get from commercializing the new products.

How the Intermediaries Differ

As we have seen, differences among the three basic approaches to innovation sourcing are reflected in the nature of their associated intermediaries. (For a detailed comparison of the three kinds of innovation intermediaries, see the exhibit “The Differing Roles of Innovation Intermediaries.”) For example, unlike idea brokers and some other early-stage intermediaries, which charge fixed fees for their services, innovation capitalists share with the inventor royalties on revenue generated for the company that acquires the innovation. They want compensation proportional to the value they have added to the idea. Unlike venture capitalists and other late-stage intermediaries, however, IC firms don't add value primarily in the form of capital investments. (Although they do typically invest five- and six-figure sums in their projects, the money is used to refine the product idea rather than to build an organization or a management infrastructure around it.) Instead they contribute a unique combination of industry, market, networking, and innovation management skills, and they assume some development risk.

But for companies considering the three approaches and the intermediaries that enable them, perhaps the most important difference—which may not be immediately obvious—is the nature of their interactions with the intermediaries. Companies seeking innovation

at the two ends of the continuum focus primarily on the type of innovation they want to buy, whereas in the middle they need to focus on the intermediary. That is, because of the nature of the innovation capitalist's offering, large client companies need to build and nurture long-term and trusting relationships with selected IC firms.

Such relationships ensure that each partner is aware of the other's decision criteria and processes, making for smoother negotiations in product or technology commercialization deals. Furthermore, the client company can tacitly agree to give all the innovation capitalist's proposals serious consideration in return for the first look at new ideas. In other words, the company should aim to become the preferred portal for the IC firm and its inventor community—much as Dial was for its own inventor community.

Client companies should provide IC firms with direction and guidance—for instance, by sharing information about product gaps, innovation priorities, and business goals. Pfizer Consumer Healthcare (now owned by Johnson & Johnson) makes its “external scan target map,” which plots brand growth opportunities, available to its sourcing partners. P&G provides a more direct “here is what we are looking for” list of priorities. Knowing the client's goals enables the innovation capitalist to match them with promising ideas and concepts from its inventor networks and to evaluate those ideas in terms of the client's market size, profit margins, and commercialization infrastructure. As the founder of one IC firm says, getting the green light for a new project is all about understanding the client's “brand window” (that is, the gaps and priorities in the company's brand portfolio) and “internal hurdle rate” (the expected returns required for a project's approval). More generally, understanding the client's internal processes and competitive context helps the IC firm to offer value that complements rather than duplicates the client's capabilities.

Choosing Your Innovation Sourcing Strategy

The innovation sourcing strategy or strategies most appropriate for your company are indicated by where you fall in the grid below relative to a number of external and internal factors. If most of your responses cluster in one column, you may want to focus on one particular strategy. If they scatter across two or three columns, you may want to broaden your range.

		Shop for Raw Ideas if your responses cluster here	Shop for Market-Ready Ideas if your responses cluster here	Shop for Market-Ready Products if your responses cluster here
INDUSTRY/MARKET FACTORS	Pace of technological and market change	Low	Medium	High
	Intellectual property context	Well-defined IP rights	Roughly defined IP rights	Poorly defined IP rights
	Market potential for typical innovation	<\$100M revenues	\$100M–\$500M revenues	>\$500M revenues
	Cost of evaluating typical innovation	Low (idea can be tested in isolation)	Medium (detailed market/technology assessment required)	High (expensive infrastructure required)
	Information required to develop typical innovation	Specific knowledge about an innovation	Integrated knowledge from different business functional areas	Complex and integrated knowledge from different technologies and markets
COMPANY FACTORS	Purpose of innovation	Enhancement of existing products	New products and brand extensions	New markets and redefined product portfolios
	Innovation capabilities	Strong development and commercialization	Moderate development and strong commercialization	Weak development and strong commercialization
	Product portfolio	Large number of diverse products	Products in a few key markets	Products in a few key technology domains
	Company size	Medium	Medium to large	Large
	Risk appetite	High	Medium	Low
	Innovation portfolio	Weak; needs externally sourced ideas	Complementary to externally sourced ideas	Weak; needs externally sourced products

In the words of David Duncan, the head of R&D for Unilever's home and personal care division, at best such relationships offer more than a pipeline of new projects and become "a collabora-

tive effort at building the innovation capability" of a client company.

It is also important that a large client company educate its internal units – particularly R&D – about the unique

role of the IC firm. This may help overcome the "not invented here" syndrome. And integrating the innovation capitalist's front-end work with the company's back-end internal development can fur-

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ther reduce time to market and enhance success rates. For example, one of the IC firms we have studied adopted systems and tools for product concept evaluation that were already being used by its preferred client, allowing faster handoffs of projects between the two.

A large company can strengthen its relationship with an innovation capitalist partner by adopting a “reverse flow” model in which the company becomes the source of innovative ideas for the IC firm. Often, large companies have developed product or technology concepts – sometimes all the way to working prototypes – that sit on the shelf because they don’t fit strategic or market priorities. An IC firm can build on such concepts and market them to other interested companies.

Procter & Gamble’s external business development group recently initiated such a project. The company had developed a product concept but determined that the value of the target market was between \$35 million and \$50 million – well below P&G’s internal threshold. Since the concept required further work, P&G negotiated a deal with an innovation capitalist to develop and market it elsewhere. In addition to potentially generating revenue from unused assets, a deal like this helps cement ties with an IC firm and ensure that the company will get first refusal for interesting and relevant ideas from the firm’s inventor community.

Precisely because they are new on the scene, innovation capitalists are still refining their business models and thus must iron out some wrinkles. For example, they get much more modest returns than do, say, venture capitalists. That means they need enough ongoing projects in their portfolios to sustain the business. But an overlarge portfolio will reduce the value an IC firm can add in developing any given idea and also threaten its relationships with both client companies and the inventor community. Despite such caveats, it is worth

companies’ time and energy to explore this new kind of relationship, given the potential benefits.

A Balanced Approach to Innovation Sourcing

Before you can select the mix of innovation sourcing options appropriate for your organization, you must consider both your industry or market profile and your company’s internal innovation profile. (See the exhibit “Choosing Your Innovation Sourcing Strategy.”)

The left end of the external sourcing continuum is attractive to consumer products and other markets in which companies tend to have lots of small and diverse products, and innovation tends to be incremental in nature. Here independent inventors can work with limited resources, quite often coming up with concepts that are not radically new but, rather, enhance existing products. As long as the patents related to such ideas are enforceable, companies

the reach of “garage entrepreneurs.” Thus DuPont relies on innovative companies that have already invested significant human and financial capital to develop market-ready products. Companies seeking innovation on this end of the spectrum will often be those with strong brands and commercialization capabilities but a low tolerance for the risk associated with developing an idea from scratch.

While every company must find its own center of gravity on the continuum, it need not rely exclusively on one intermediary or approach. For example, companies that typically favor idea scouts may seek more-mature ideas from IC firms. Similarly, organizations that have traditionally focused on acquiring innovative companies may discover that partnership with an innovation capitalist broadens the range of ideas they can consider without hampering their ability to respond to new market opportunities. For example, DuPont may

After acquiring partial ownership of an idea from an inventor, the innovation capitalist spends its own money to develop the commercial potential.

can acquire them outright from the inventors and pursue their own development and commercialization plans, as Dial and Staples have done. This end of the continuum also requires that the acquiring companies have the ability to develop raw ideas into products and an appetite for the risk inherent in such development.

The right end of the continuum is more appropriate when domain expertise, significant capital, and market validation are needed. Companies that rely on science- and technology-based competitive advantage, such as DuPont and 3M, tend to favor this end. New products for these companies take many years and tens of millions of dollars to develop – putting them beyond

find that buying companies is appropriate in its mature core businesses, such as building and construction materials, but alternative points along the continuum are useful for emerging businesses, such as electronics and imaging or bio-based materials.

Companies are oriented to one end of the continuum or the other for good reason. But expanding into the middle will increase both their options and their flexibility. No longer beset by anxiety and confusion, they can return home with a valuable and varied shopping basket after a visit to the innovation bazaar. ▢

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The Innovation Value Chain

Rather than reflexively importing innovation best practices, managers should adopt a tailored, end-to-end approach to generating, converting, and diffusing ideas.

by Morten T. Hansen and Julian Birkinshaw

EXECUTIVES IN LARGE COMPANIES often ask themselves, “Why aren’t we better at innovation?” After all, there is no shortage of sound advice on how to improve: Come up with better ideas. Look outside the company for concepts and partners. Establish different funding mechanisms. Protect the new and radically different businesses from the old. Sharpen the execution.

Such strategic counsel, however, is based on the assumption that all organizations face the same obstacles to developing new products, services, or lines of business. In reality, innovation challenges differ from firm to firm, and otherwise commonly followed advice can be wasteful, even harmful, if applied to the wrong situations.

Consider how two different CEOs confronted the innovation challenges facing their companies. When Steve Bennett joined Intuit, the maker of the financial software programs Quicken and QuickBooks, in January 2000, it was a company with lots of ideas – most collected from outside the organization – but little discipline for bringing those ideas to market. “We had a lot of energy focused on learning from customers,” the CEO recalls, “but we were struggling to decide which ideas would have the highest impact.” To fix this, Bennett demanded that clear business objectives be set for ideas in development, and he held people accountable for delivering on them. Intuit is now just as good at executing on ideas as it is at generating them. The company’s

Article at a Glance

There is no universal solution for organizations wanting to improve their ability to generate, develop, and disseminate new ideas. Every firm faces its own challenges in this regard.

Managers need to take an end-to-end view of their innovation efforts, pinpoint their particular weaknesses, and tailor innovation best practices as appropriate to address the deficiencies.

The “innovation value chain” offers a comprehensive framework for doing just that. It breaks innovation down into three phases (idea generation, conversion, and diffusion) and six critical activities (internal, cross-unit, and external sourcing; idea selection and development; and spread of the idea) performed across those phases.

Using the innovation value chain, managers can identify the company’s weaknesses and, as a result, be more selective about which innovation tools and approaches to implement. The chain can also help managers realize that focusing too many resources on perceived innovation strengths can further debilitate the weakest parts of the chain – and the company’s overall innovation capabilities.

revenues and profits are up 47% and 65%, respectively, from three years ago, in part because of this effort.

About the same time that Bennett took the helm at Intuit, A.G. Lafley became CEO of Procter & Gamble, a company that had traditionally been good mainly at developing new products internally and bringing them to market. But a persistent weakness was its insular culture. Lafley wanted the company to become better at cultivating ideas from the outside. After five years of investments, P&G now has a state-of-the-art process for sourcing ideas externally, which includes a global network of resources and online knowledge-exchange sites. This process complements P&G’s core competency in executing on ideas and has helped fuel an increase in sales and profits of 42% and 84%, respectively, over the past five years.

Bennett and Lafley faced different innovation challenges, which required different solutions. Intuit and Procter & Gamble probably would be worse off today had their CEOs simply imported the latest best practices in innovation management. Now consider a computer hardware company we analyzed. Buying into the latest advice about innovation – companies should focus on generating more ideas – managers set up a series of formal brainstorming sessions. Idea generation wasn’t the problem, however. The company had inadequate screening and funding processes: Concepts never flourished, nor did they die. The brainstorming sessions actually aggravated the innovation process – employees were pumping more and more ideas into an already badly broken system.

Even the strongest dose of the best analgesic on the market won’t help mend a broken bone. Likewise, companies can’t just import the latest fads in innovation to cure what’s ailing them. Instead, they need to consider their existing processes for creating innovations, pinpoint their unique challenges, and develop ways to address them. In this

article, we offer a comprehensive framework – “the innovation value chain” – for doing just that.

The innovation value chain is derived from the findings of five large research projects on innovation that we undertook over the past decade. We interviewed more than 130 executives from over 30 multinationals in North America and Europe. We also surveyed 4,000 nonexecutive employees in 15 multinationals, and we analyzed innovation effectiveness in 120 new-product-development projects and 100 corporate venturing units.

The innovation value chain view presents innovation as a sequential, three-phase process that involves idea generation, idea development, and the diffusion of developed concepts. Across all the phases, managers must perform six critical tasks – internal sourcing, cross-unit sourcing, external sourcing, selection, development, and company-wide spread of the idea. Each is a link in the chain. Along the innovation value chain, there may be one or more activities that a company excels in – the firm’s strongest links. Conversely, there may be one or more activities that a company struggles with – the firm’s weakest links. (See the exhibit “The Innovation Value Chain: An Integrated Flow.”)

Our framework asks executives to take an end-to-end view of their innovation efforts. It discourages managers from reflexively importing innovation practices that may address a part of the chain but not necessarily the one that the company needs to improve most. It centers their attention on the weakest links and prompts executives to be more selective about which practices to apply in their quest for improved innovation performance.

The innovation value chain can also help managers realize that a perceived innovation strength may actually turn out to be a weakness: When managers target only the strongest links in the innovation value chain – heeding popular advice for bolstering a core capability in,



say, idea generation or diffusion – they often further debilitate the weakest parts of the chain, compromising their innovation capabilities overall.

Think Innovation Value Chain

To improve innovation, executives need to view the process of transforming ideas into commercial outputs as an integrated flow – rather like Michael Porter’s value chain for transforming raw materials into finished goods. The first of the three phases in the chain is to *generate* ideas; this can happen inside a unit, across units in a company, or outside the firm. The second phase is to *convert* ideas, or, more specifically, select ideas for funding and developing them into products or practices. The third is to *diffuse* those products and practices. Let’s examine the activities and challenges associated with each.

Idea generation. Executives understand that innovation starts with good ideas – but where do these concepts come from? Managers naturally look first inside their own functional groups or business units for creative sparks; they usually find they have a pretty good sense of what’s close at hand. The bigger sparks, they discover, are ignited when fragments of ideas come together – specifically, when individuals across units brainstorm or when companies tap external partners for ideas.

Cross-unit collaboration – combining insights and knowledge from different parts of the same company in order to develop new products and businesses – is not easily achieved. Decentralized organizational structures and geographical dispersion make it hard for people to work across units. Managers at Bertelsmann, the large

German global media company, took a staggering three years to catch up with Amazon in launching an online bookstore, in large part because of their company’s decentralized makeup. Bertelsmann’s autonomous publishing houses, book and music clubs, and distribution and multimedia divisions could not and did not collaborate on this new business opportunity.

Companies also need to assess whether they are sourcing enough good ideas from outside the company and even outside the industry – that is, tapping into the insights and knowledge of customers, end users, competitors, universities, independent entrepreneurs, investors, inventors, scientists, and suppliers. Many companies do this poorly, resulting in missed opportunities and lower innovation productivity. Sony, for example, had an impressive track record throughout the 1980s for developing new-to-the-world products such as the Walkman and PlayStation. But by the 1990s, the company’s engineers were becoming increasingly insular. As CEO Sir Howard Stringer recalled

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The Innovation Value Chain: An Integrated Flow

Viewing innovation as an end-to-end process rather than focusing on a part allows you to spot both the weakest and the strongest links.

	IDEA GENERATION			CONVERSION		DIFFUSION
	IN-HOUSE	CROSS-POLLINATION	EXTERNAL	SELECTION	DEVELOPMENT	SPREAD
	Creation within a unit	Collaboration across units	Collaboration with parties outside the firm	Screening and initial funding	Movement from idea to first result	Dissemination across the organization
KEY QUESTIONS	Do people in our unit create good ideas on their own?	Do we create good ideas by working across the company?	Do we source enough good ideas from outside the firm?	Are we good at screening and funding new ideas?	Are we good at turning ideas into viable products, businesses, and best practices?	Are we good at diffusing developed ideas across the company?
KEY PERFORMANCE INDICATORS	Number of high-quality ideas generated within a unit.	Number of high-quality ideas generated across units.	Number of high-quality ideas generated from outside the firm.	Percentage of all ideas generated that end up being selected and funded.	Percentage of funded ideas that lead to revenues; number of months to first sale.	Percentage of penetration in desired markets, channels, customer groups; number of months to full diffusion.

in a 2005 *New Yorker* article, the engineers started to suffer from a damaging “not invented here syndrome,” even as rivals were introducing next-generation products such as the iPod and Xbox. As a result of their belief that outside ideas were not as good as inside ones, they missed opportunities in such areas as MP3 players and flat-screen TVs and developed unwanted products – cameras that weren’t compatible with the most popular forms of memory, for instance.

Idea conversion. Generating lots of good ideas is one thing; how you handle (or mishandle) them once you have them is another matter entirely. New concepts won’t prosper without strong screening and funding mechanisms. Instead, they’ll just create bottlenecks

and headaches across the organization. In many companies, tight budgets, conventional thinking, and strict funding criteria combine to shut down most novel ideas. Employees quickly get the message, and the flow of ideas dries up. When Stewart Davies became head of R&D at BT in 1999, the UK telecommunications group was in financial trouble. Davies reviewed operations within R&D and recalled being staggered by the inventiveness – and the frustration – of the people he met. There was no shortage of good ideas at the company, he concluded. But inadequate commercial skills and a shortage of seed money for high-risk projects made it difficult for anyone to move forward with ideas for new technologies.

Other companies have the opposite problem: Managers don’t apply their screens strictly enough. The organization overflows with new projects of varying quality (often underfunded and understaffed) and no clear sense of how the initiatives fit into the overarching corporate strategy. For instance, in 1999 the UK media company Emap earmarked approximately £100 million to create a digital division to develop Internet-based offerings for its magazine and radio businesses. Worried that it was falling behind its competitors, the company aggressively invested in whatever digital business ideas were put forward, with little regard for business cases or budgets. By 2000, Emap had 43 separate businesses focused on

online media offerings, with projected revenues in excess of £100 million. In reality, revenues never rose above £20 million. Most of the businesses shut their doors; and the division reported losses of £60 million in 2001 and £17 million in 2002.

No matter how well screened or funded, ideas still must be turned into revenue-generating products, services, and processes. Concepts that have been selected for further development often go nowhere because they're languishing in a part of the organization that's too busy doing other things or that fails to see their potential. For instance, to address the burgeoning demand for energy-efficient lighting, consumer appliances, and heating systems, General Electric invested in a small energy-management services business in Canada in the 1990s. Despite the business's early successes in winning contracts and some market share, there was no natural home for it within the product-focused GE. The business struggled along as a misfit for a few years before being shut down, and GE missed an opportunity to gain early-mover advantage in a growing industry.

Idea diffusion. Concepts that have been sourced, vetted, funded, and developed still need to receive buy in – and not just from customers. Companies must get the relevant constituencies within the organization to support and spread the new products, businesses, and practices across desirable geographic locations, channels, and customer groups. In large companies with many subsidiaries and organizations, such diffusion is far from automatic. At Procter & Gamble in Europe, for instance, the focus several years ago was on extensive product and market testing to prove “superior total value,” and the company placed ultimate authority for launching new products on the shoulders of its national brand managers. These policies led to painfully slow rollouts. Because of P&G's rigorous market-test requirements, managers launched Pampers

diapers in France an astonishing five years after the product was first introduced in Germany. Meanwhile, Colgate-Palmolive, noticing P&G's early success in Germany, launched a me-too line of diapers in France, gaining dominant market share there, two full years before P&G introduced Pampers in that country.

Focus on the Right Links

When executives view their companies' innovation processes as a value chain, engaging in a link-by-link analysis, they may be surprised by what they learn. The managers we've worked with are often quick to tout their particular innovation strengths: “We're really creative.” “We're very good at developing products fast.” Perhaps – but these so-called innovation strengths can actually lead to weaknesses in the process if they're not complemented by equivalent strengths in other areas. Consider the computer hardware manufacturer we referred to earlier. At any point in time, there were at least 50 very good ideas for new products and businesses floating around the company. But because managers did not screen the ideas properly – funding the best ones and killing the others – few ideas took hold, and new ones just kept coming. The engineers at the firm became increasingly frustrated, seeing their creative talents go to waste. The brainstorming sessions that senior management implemented to help mend fences with the engineers only contributed to the problem. By failing to recognize the weak link (idea selection) and focusing more time and resources on an already strong link (idea generation), the management team undermined the company's overall innovation efforts.

Similarly, it doesn't matter how great a company's idea-selection process is if only a few good concepts are on the table or if the subsequent development process is weak. It's also a waste of time and money to develop state-of-the-art capabilities for rolling out products or

services when there's nothing worthwhile to diffuse.

In short, a company's strongest innovation links are simply no good if they prompt the organization to spend money with little hope of solid returns or if the attention paid to them further weakens other parts of the innovation value chain. Managers need to stop putting all their effort into improving their core innovation capabilities and focus instead on strengthening their weak links. Indeed, our research suggests that a company's capacity to innovate is only as good as the weakest link in its innovation value chain. (See the exhibit “Which Innovation Strategy Is Right for You?”)

Organizations typically fall into one of three broad “weakest link” scenarios. First is the *idea-poor* company, which spends a lot of time and money developing and diffusing mediocre ideas that result in mediocre products and financial returns. The problem is in idea generation, not execution.

By contrast, the *conversion-poor* company has lots of good ideas, but managers don't screen and develop them properly. Instead, ideas die in budgeting processes that emphasize the incremental and the certain, not the novel. Or managers adopt the “1,000 flowers” approach, letting ideas bloom where they may but never culling them. The need is for better screening capabilities, not better idea generation mechanisms.

Finally, the *diffusion-poor* company has trouble monetizing its good ideas. Decisions about what to bring to market are made locally, and not-invented-here thinking dominates. As a result, new products and services aren't properly rolled out across geographic locations, distribution channels, or customer groups. For such companies, the real upside lies in aggressively monetizing what it has already been able to develop, not in paying further attention to idea generation or idea conversion.

Here's a closer look at the three typical weakest-link scenarios and some possible best practices that would be appropriate for managers to adopt.

Fixing the Idea-Poor Company

Why do some companies experience a shortage of good new ideas? Our research indicates it's partly due to inadequate networks. Managers fail to forge quality links with others outside their company. Or people prefer to talk to their immediate colleagues rather than reach out to counterparts in other departments or divisions. These companies need to build *external networks* as well as *internal cross-unit networks* to generate ideas from new connections.

Build external networks. There are two fundamentally different approaches to building external networks, each of which fulfills different objectives. The first approach is to develop a *solution* network, geared toward finding answers to specific problems. This

tect fatty acids from oxidation?" – that any of the more than 10,000 engineers, chemists, and other scientists registered at the site can tackle. The individual or group offering the best acceptable solution gets a financial reward; the winner of the fatty acids challenge received \$20,000.

The second approach is to build a *discovery* network geared toward unearthing new ideas within broad technology or product domains. This is what Siemens, the Germany-based electronics and engineering company, has done in Silicon Valley. Since 1999, it has sited a 15-person scouting unit in Berkeley, California. Members of the Technology-to-Business (TTB) Center cultivate personal relationships with scientists, doctoral students, venture

with real-time guarantees and take a leading place in that market.

The objective of discovery networks should be to learn, not to tell. Consider how Intuit developed its Simple Start edition of QuickBooks in 2003. Developers wanted to observe the owners of one- or two-person businesses: Exactly how did they manage their accounts? How did they handle their payables and receivables? Intuit created a fact-finding process: A ten-member development team visited with small business owners in 40 "follow me homes," where the developers experienced firsthand the business problems facing users. Many customers didn't need or want certain higher-end accounting functions in their software, the developers learned, so the team set out to simplify QuickBooks. They tested six successive stripped-down versions of the software in the follow-me-homes before arriving at the Simple Start edition – which proved to be a best seller for Intuit.

Whether managers are developing solution networks or discovery networks, the key metric for them to keep in mind is diversity, not number, of contacts. The goal here should be to tap as many unique sources of information and ideas as possible as opposed to interacting with many similar contacts.

Build internal cross-unit networks.

A complementary approach to generating new ideas from outside companies is to build cross-unit networks inside organizations. After all, employees who don't know one another can't collaborate on new ideas. And the occasional cross-functional brainstorming session won't do the trick: It unfairly assumes that people who are unfamiliar with one another will be able to work together to generate ideas on demand. What's needed is an ongoing dialogue and knowledge exchange between people from different units.

P&G has done this for years, resulting in many successful cross-fertilized product and business creations. Take, for example, the company's develop-

A company's capacity to innovate is only as good as the weakest link in its innovation value chain.

is what A.G. Lafley mainly has built at P&G. In-house product developers translate customer needs into technology briefs that include descriptions of the problems to be solved. The technology briefs traverse the company's external network – which comprises technology scouts, suppliers, research labs, and retailers worldwide – to see whether someone, somewhere can offer solutions to the problems posted. (For more details about P&G's external solution network, see Larry Huston and Nabil Sakkab's "Connect and Develop: Inside Procter & Gamble's New Model for Innovation," HBR March 2006.)

Likewise, the pharmaceutical company Eli Lilly has spearheaded Innocentive (www.innocentive.com), a solution-seeking Web site that Lilly, P&G, and other companies use to find answers to specific technical or scientific problems. The companies post questions – for instance, "How can we pro-

capitalists, and entrepreneurs as well as government labs and corporate research centers. Through these relationships, they learn about emerging technologies and business ideas. Their real value as scouts, though, lies in their ability to match emerging technologies to specific Siemens businesses. For instance, TTB scouts learned about technology for optimizing the quality of service on computer networks from a Columbia University doctoral student. They were able to deliver that knowledge to the appropriate parties – first to Siemens's telecommunications division, and then, after that industry experienced an unrelated downturn, to the company's factory communications division. That group aspired to meet the customer need for guaranteed real-time traffic over wireless local area networks (WLAN). As a result of TTB's diverse external network, Siemens was able to release the first-ever WLAN product

Which Innovation Strategy Is Right for You?

There are many excellent innovation perspectives, as this small sample of published works indicates. The innovation value chain provides a framework for managers to sort out which approaches make the most sense for their companies to adopt.

Innovation Value Chain		Possible Solution
Idea Generation	In-house idea generation	"How to Kill Creativity," by Teresa M. Amabile (HBR September–October 1998) <i>Jamming: The Art and Discipline of Business Creativity</i>, by John Kao (HarperBusiness, 1996)
	Cross-pollination	"Collaboration Rules," by Philip Evans and Bob Wolf (HBR July–August 2005) "Coevolving: At Last, a Way to Make Synergies Work," by Kathleen M. Eisenhardt and D. Charles Galunic (HBR January–February 2000)
	External sourcing	<i>Democratizing Innovation</i>, by Eric von Hippel (MIT Press, 2005) <i>Blue Ocean Strategy</i>, by W. Chan Kim and Renée Mauborgne (Harvard Business School Press, 2004) <i>Open Innovation: The New Imperative for Creating and Profiting from Technology</i>, by Henry Chesbrough (Harvard Business School Press, 2003)
Conversion	Selection	"Bringing Silicon Valley Inside," by Gary Hamel (HBR September–October 1999) <i>Corporate Venturing: Creating New Businesses Within the Firm</i>, by Zenas Block and Ian C. MacMillan (Harvard Business School Press, 1993)
	Development	<i>10 Rules for Strategic Innovators: From Idea to Execution</i>, by Vijay Govindarajan and Chris Trimble (Harvard Business School Press, 2005) <i>The Innovator's Solution: Creating and Sustaining Successful Growth</i>, by Clayton M. Christensen and Michael E. Raynor (Harvard Business School Press, 2003)
Diffusion	Spread of the idea	<i>Payback: Reaping the Rewards of Innovation</i>, by Harold L. Sirkin, James P. Andrew, and John Butman (Harvard Business School Press, 2007) "Tipping Point Leadership," by W. Chan Kim and Renée Mauborgne (HBR April 2003)

ment of Olay Daily Facials. The idea was to make a face cream that was an excellent cleanser and moisturizer. Experts from P&G's skin care, tissue and paper towel, and detergents and fabric softeners groups joined together, and their combined knowledge about surfactants, substrates, and fragrances helped P&G create and launch a highly successful new product.

These kinds of collaborations don't happen by chance; they are the result of well-established organizational mechanisms. P&G has developed 30 communities of practice. Each comprises volunteers from different parts of the organization and is built around an area of expertise (such as fragrance,

bleach, analytical chemistry, or skin and hair science). The teams solve specific problems that are brought to them, and they participate in monthly technology summits with representatives from P&G's ten business units. The company has also posted an "ask me" feature on its intranet, where employees can describe a business problem or need. Their questions or concerns get pushed out to 10,000 P&G employees worldwide and are ultimately funneled to those people with relevant expertise. At a more fundamental level, P&G promotes from within and moves people across countries and units. As a result, its employees build extensive personal cross-unit networks.

Fixing the Conversion-Poor Company

Why do companies find it difficult to convert good ideas into products and services? Most companies have no shortage of formal systems for managing ideas. The number and diversity of people involved, however, can create a risk-averse and bureaucratic process that grinds execution to a halt. As one senior executive in a financial services company told us, "If I want to get a new idea to market quickly, I take personal control of it, and I steer it through the system. If I want to kill an idea, I send it through the formal process." Two innovation practices can go a long way toward addressing the idea-conversion

problem – *multichannel funding* and *safe havens*.

Multichannel funding. In conversion-poor companies, innovation stalls when, say, the boss doesn't like a particular new idea or doesn't consider it good enough to supplant an existing initiative that's already accounted for in the budget. That's usually the end of it; another potential line of business or method for improving corporate performance falls by the wayside. A multichannel funding model, however, opens up different options outside the boss's immediate purview – from small discretionary pots of seed money all the way to full-scale venture funds.

Consider the success of Shell Oil's GameChanger unit: It was set up in 1996 to fund the development of radical ideas that might lead to entirely new businesses, and it has been a great

and progress reviews are required at each stage. Ventures that achieve "proof of concept" (about 10% of all original submissions) leave GameChanger at that point and are either moved into one of the divisions (where most projects go) or into Shell Technology Ventures, a corporate spinout vehicle.

Since GameChanger was formed, some 1,600 ideas have been submitted. The flow of proposals is constant, and the unit has built up a track record of success: forty percent of all development projects in the exploration and production business started out as GameChanger ventures.

Safe havens. Some companies are better than others at building safe havens for their emerging concepts. Such havens can be critical to the successful conversion of good ideas into profitable products or businesses. Consider the

included heavy-hitting line executives oversaw the new ventures. When one new business team was looking for access to an existing Tenco sales channel, a board member was able to broker the match in a way that worked for both parties. On the other hand, Tenco sited the new businesses in a separate location and gave them high levels of operating autonomy. To foster an entrepreneurial spirit, Tenco developed a novel risk/reward compensation scheme for managers of the new businesses. Base pay was relatively low compared with standard industry salaries, but managers who hit all their numbers could see rewards as high as those of Tenco's senior executives. The structure has worked well: Successful venture managers have been reasonably well compensated and have retained their allegiance to the company.

Most companies have no shortage of formal systems for managing ideas. The number and diversity of people involved, however, can create a risk-averse and bureaucratic process that grinds execution to a halt.

success over the past decade. Today it operates across all the major divisions of Shell (exploration and production, retail, and chemical) and has an annual seed-funding budget of \$40 million. Leo Roodhart, a corporate-level executive, oversees the 25-person unit. Shell employees submit their ideas to the GameChanger Web site. Unit members review all ideas, and, over the course of six months to a year, the proposals go through various rounds of vetting, prototyping, and funding. Employees take time away from their day jobs to explore their ideas further, and they are compensated for their efforts. As proposals turn into business plans, employees may receive between \$300,000 and \$500,000 in initial funding from GameChanger. Project milestones are formally set up, and clear deliverables

situation at a UK technology company we'll call Tenco. Frustrated by its anemic top-line growth, the firm in 2000 established a separate unit focused on developing new business ideas that were clearly relevant to Tenco's overall strategy but that would probably stagnate in the line organization. Of the 13 ventures the unit was responsible for sheltering, nine went on to become viable businesses with combined annual revenues in excess of £100 million.

Tenco's executives saw their role as shielding these new businesses from the short-term thinking and budget constraints that pervaded the rest of the organization, but without isolating them. On the one hand, the management team built a governance structure that kept the new businesses close to the mainstream ones. A board that

Fixing the Diffusion-Poor Company

Why do some companies find it so difficult to gain traction for their new ideas? In decentralized organizations, managers are granted considerable autonomy, including the freedom to say "No thanks" to new ideas. Even when managers have less formal control over which new ideas will be implemented, they can still delay or sabotage projects they don't believe in. Diffusion doesn't happen by fiat; executives can't just order a companywide rollout of developed ideas. Instead, they need to create buzz for new concepts by using a variety of catalysts. One such catalyst is the "idea evangelist" – someone who preaches the good word about an emerging product or business. The best evangelists relentlessly use their deep, high-touch personal networks to increase awareness among employees and persuade them to adopt a new product or business concept. They reach out through phone calls, e-mails, and sales calls and in meetings. Their relationships must span many different parts of the organization for companywide and cross-company diffusion to ensue.

Rate Your Company's Innovation Value Chain

If you want to improve your company's innovation performance, here is a good place to start. Have about 30 employees from a cross-section of functions within the company fill out this questionnaire. Calculate the average score for each activity, and focus your attention on the highest one or two numbers – these are your weakest links.

	Do not agree	Partially agree	Agree	Activity	Phase
Our culture makes it hard for people to put forward novel ideas.	1	2	3	In-house idea generation	High scores indicate that your company may be an idea-poor company .
People in our unit come up with very few good ideas on their own.	1	2	3		
Few of our innovation projects involve team members from different units or subsidiaries.	1	2	3	Cross-pollination among businesses	
Our people typically don’t collaborate on projects across units, businesses, or subsidiaries.	1	2	3		
Few good ideas for new products and businesses come from outside the company.	1	2	3	External sourcing of ideas	
Our people often exhibit a “not invented here” attitude – ideas from outside aren’t considered as valuable as those invented within.	1	2	3		
We have tough rules for investment in new projects – it’s often too hard to get ideas funded.	1	2	3	Selection	High scores indicate that your company may be a conversion-poor company .
We have a risk-averse attitude toward investing in novel ideas.	1	2	3		
New-product-development projects often don’t finish on time.	1	2	3	Development	
Managers have a hard time getting traction developing new businesses.	1	2	3		
We’re slow to roll out new products and businesses.	1	2	3	Diffusion	High scores indicate that your company may be a diffusion-poor company .
Competitors quickly copy our product introductions and often make pre-emptive launches in other countries.	1	2	3		
We don’t penetrate all possible channels, customer groups, and regions with new products and services.	1	2	3		

Let's look at the European launch of Sara Lee's Sanex soap and shower products in the early 1990s. Sanex was first created in Spain and quickly achieved leadership in the bath and shower segment as a "healthy skin" concept. Excited by Sanex's regional success, Sara Lee's European executive team asked Martin Muñoz, the president of the Southern European division of Sara Lee and a creator of Sanex, to take personal responsibility for coordinating its launch across Europe. The only problem was that Sara Lee's highly decentralized structure made such a launch difficult, and several country managers had already expressed their lack of support for Sanex. So Muñoz made it his personal crusade to win them over. He had the excellent results from Spain to help

stead. Managers need to monitor each link in the chain constantly in order to continually improve the whole.

Indeed, for managers who adopt the innovation value chain perspective, it's not just business as usual. They will need to implement new key performance indicators that focus on the specific deliverables from each link in the chain. If a company wants to improve its external sourcing of ideas, for instance, a baseline measure would be the actual number of good new ideas the company (or unit) sourced from outside last year rather than the number of university partnerships it has created. Or if a firm wants to improve its diffusion practices, a good baseline measure would be the percentage of penetration in desired markets, channels, and

technologies from different parts of the company to develop new products and businesses. At Shell, Leo Roodhart and the members of his GameChanger team act as internal venture capitalists, funding and overseeing new ideas in a phased manner with increasing levels of commitments. At Tenco, the venture board members act as project champions, steering new businesses to success by providing safe havens for them. And finally, people like Martin Muñoz at Sara Lee act as internal evangelists, trying to get the rest of the company to adopt new products, concepts, and businesses. These are often not full-time roles; people can usually assume these tasks as part of their normal duties. It is important, however, for top management to keep the innovation value chain in mind – the weak links in particular – when determining the skills and experience they're looking for in new hires. A company that is poor at converting ideas into new products and lines of business, for instance, may look to bring in people with venture capital backgrounds in order to foster that mind-set at the organization.

...

There is a lot of excellent counsel in bookstores and from consulting firms for executives seeking to improve their innovation capabilities. In the quest for answers, though, managers need to remember that one size doesn't fit all. The inappropriate application of popular innovation remedies may, in fact, thwart a company's efforts to improve. The innovation value chain offers a tailored and systematic approach to assessing your company's innovation performance and determining which of the many best practices out there would be best to adopt. The chain-based view can help executives unleash a stream of new products and services. More important, it can help them finally realize the potential from their innovation investments. ▢

If executives tailor their solutions to the right problems, over time, a weak link in the innovation value chain will become a strong one.

make his case, but, as he said, "Success is never enough." Despite resistance from the marketing managers in the UK and Denmark, Muñoz persevered: He visited them many times, and he brought them out to Barcelona to sell them on the concept. Muñoz was also aware of internal changes and moved quickly to visit and bring on board a new marketing manager who had just replaced a skeptical one in the UK. His tenacity prevailed. After two years, Sanex had successful launches in four countries. It was eventually introduced in 29 countries and for several years was Sara Lee's best-selling brand in its household and body care division.

New Measures, New Roles

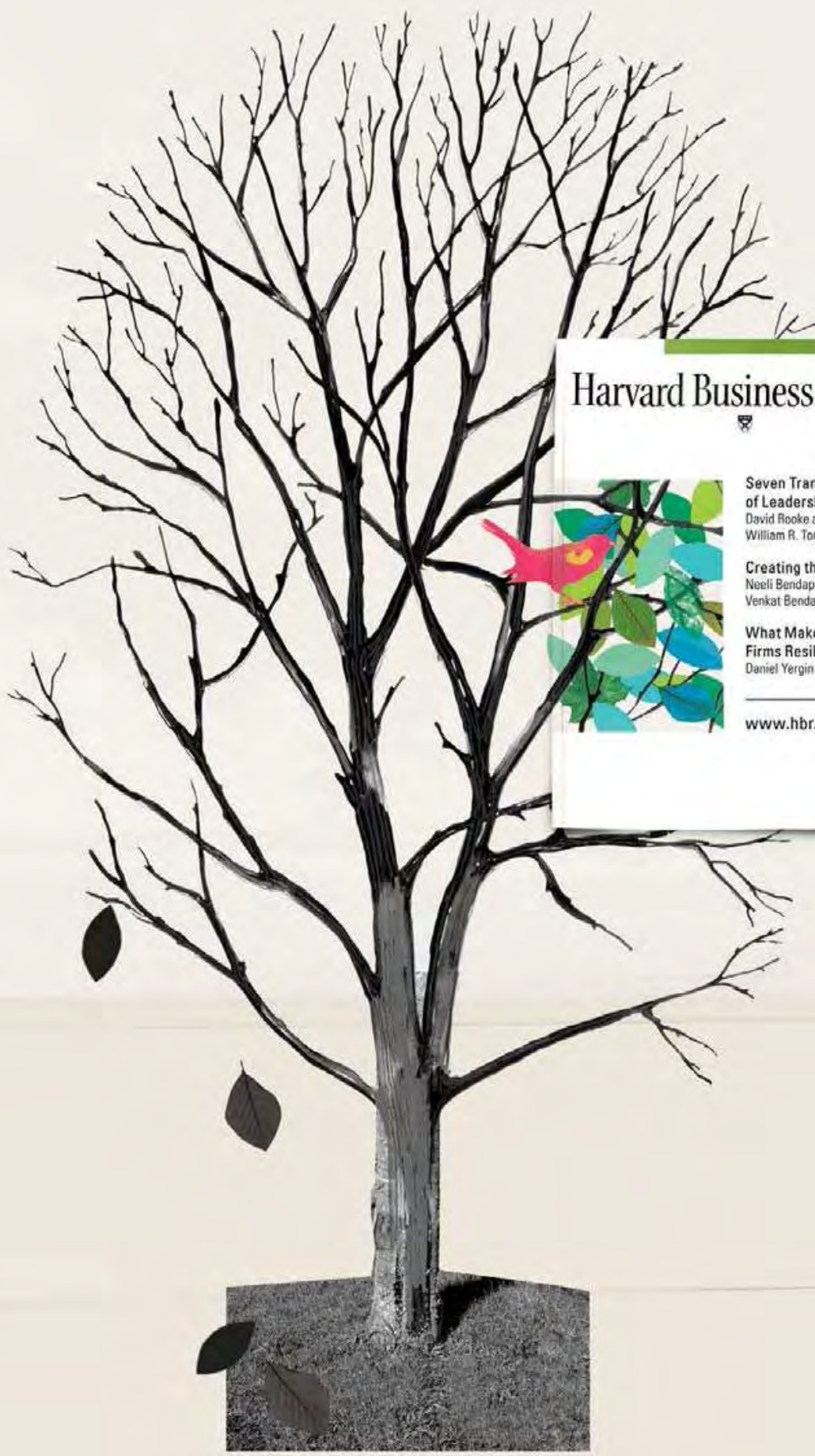
If executives tailor their solutions to the right problems, over time, a weak link in the innovation value chain will become a strong one – and some other part of the chain will need tending in-

stead. Managers need to monitor each link in the chain constantly in order to continually improve the whole. customer groups plus the months to full diffusion rather than the absolute market share in each country. Managers will need to determine what constitutes a "good" idea versus a trivial one, what constitutes an ideal flow of concepts from the outside, and ratios of good ideas to all ideas (good or bad) found outside the company, among other data. Companies may not already collect these data; they may have to start out with internal surveys and then accumulate information as they go.

Managers adopting the value chain view of innovation will also need to cultivate new roles for employees. For instance, team members at Siemen's Silicon Valley unit are external scouts, seeking good ideas from outside the company. At Procter & Gamble, product developers and scientists assume the role of internal idea brokers, talking to colleagues across the company to identify new ways of combining

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Letters to the Editor

Borrowing from the PE Playbook

Michael C. Mankins's breakthrough idea "Borrowing from the PE Playbook" (The HBR List, February 2007) is thought provoking. It certainly makes sense for companies to understand the strategy and methods of private equity firms. But using PE tactics, especially for product-oriented companies, is another matter. Doing so would likely

If acquisitions are likely to be the best use of excess cash, why not include the acquiring company itself in the analysis, as though it were a potential target? If the acquiring company is achieving attractive returns on this basis, wouldn't a stock buyback program be completely appropriate? In both cases, it comes down to buying assets based on some valuation.

Given that many acquisitions end up not delivering the expected value, offering a stock buyback might even be prudent, especially if the business is competing successfully. Successful competition is evidence of superior knowledge of the current market and where it is going.

Teg Rood

Principal

Rood Consulting

Lowell, Massachusetts



require wholesale changes to the business model, the capital structure, and management and could take years to get right. In the meantime, more customer-focused competitors would have a field day. A company with a business model like General Electric's might have the heft, structure, and embedded knowledge to do it. However, GE's stock performance over the past several years doesn't support the notion that PE tactics add outsized value.

Mankins responds: Teg Rood's letter raises an important question regarding the wisdom of repurchasing shares with excess cash versus investing in acquisitions. The return from buying back stock is always a useful benchmark in considering other investments, but repurchasing stock is a very different decision from buying new growth options through acquisitions. Indeed, using cash to repurchase shares does nothing to create new growth options and can actually decrease a firm's longer-term financial and strategic flexibility –

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whereas using cash to acquire productive assets can increase flexibility and create valuable opportunities for future growth. Done right, the latter is a great service to shareholders.

As for Rood's other question – Is it fruitful to apply private equity disciplines to product-oriented companies? – successful applications of such practices by Procter & Gamble, Danaher, United Technologies, and a host of PE firms that hold portfolios of product-oriented companies would indicate the answer is yes. Rood makes a leap of logic, however, when he suggests that to apply these tools requires wholesale business model changes. Our research indicates that disciplined acquirers from a wide variety of sectors outperform those who sit on the sidelines. The key, of course, is discipline.

Seeing Is Treating

In their article, "Seeing Is Treating" (The HBR List, February 2007), Klaus Kleinfeld and Erich Reinhardt make two unfortunate assumptions regarding emerging technologies. I encounter these beliefs often in my work as a physician: first, that "early detection of disease saves lives" and second, that "no patient without symptoms would be prescribed an (imaging) exam." Both of these bold statements are patently untrue and should not be invoked without caveats. Promoting such myths among the general public hampers the ability of physicians to practice medicine cost effectively.

Contrary to popular belief and even intuition, early detection of disease does not always save lives. This is because

of a phenomenon epidemiologists call "lead time bias." If the period of time between early detection of a disease and the time of its usual clinical manifestation is not subtracted from the overall projected survival time of screened patients, early detection merely increases the duration of patients' awareness of their disease without reducing their mortality or morbidity. Multiple studies have documented that although annual chest radiographs in asymptomatic individuals (those without symptoms such as a prolonged cough or difficulty breathing) lead to early detection of lung cancer, they do not, as a rule, prolong life. This is why neither the U.S. Preventive Services Task Force nor the American Cancer Society formally recommends screening of the general population using annual or periodic chest radiographs.

On the other hand, doctors have known for a couple of decades the value of screening women at least 40 years of age for breast cancer with annual mammography, whether or not they have symptoms.

Humayun J. Chaudhry

*Commissioner of Health
Department of Health Services
Suffolk County, New York*

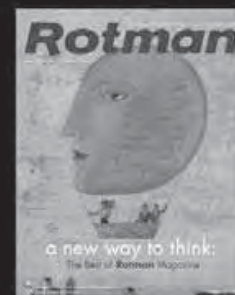
Kleinfeld and Reinhardt respond: We appreciate Humayun Chaudhry's thoughtful letter. While we pointed out the benefits of early detection, we emphasize that we are not advocating for medical screening exams beyond those already supported by national and international medical associations like the American Cancer Society.

However, we are convinced that there is great potential for increasing

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overall quality of care by improving the integration of screening, diagnosis, and treatment. The ultimate goal is to deliver the right treatment, to the right patient, at the right time.

Thanks to dedicated professionals like Chaudhry, who are working to advance health policy and improve patient care around the globe, we will all benefit from what the future of health care has to offer.

Why U.S. Health Care Costs Aren't Too High

In "Why U.S. Health Care Costs Aren't Too High" (The HBR List, February 2007), Charles R. Morris takes the position that health care costs are falling and spending is rising only because more people are willing to undergo surgery. He uses the reduced rate of heart attacks and other maladies as evidence of this "improvement."

The global report card on the U.S. health care system as discussed in the 2007 edition of the *Pocket World in Figures*, edited by *The Economist*, refutes Morris's basic premise. The United States ranks 40th in life expectancy at 78 years, versus Andorra (first, at 84) and Japan (second, at 83). Interestingly enough, France, rated first in health care, is ranked 14th in life expectancy, significantly ahead of the United States. Meanwhile, Singapore and Iceland are first and second, respectively, for the lowest infant mortality rate, while, tragically, the United States ranks in the twenties. Clearly, for the United States, neither increased spending nor lower costs resulted in the best health care.

Richard A. Brown
President and COO
Krause Corporation
Hutchinson, Kansas

Morris responds: Richard Brown is criticizing arguments I never made. My sole point is that the leading health care spending drivers are not price inflation, waste and fraud, or even demographics.

Instead, the explosion of new products and technologies that offer more effective treatments, usually at decreasing prices, has become the most influential factor. That trend will not slow down. Many economic benefits accompany the success of companies like GE Healthcare and Medtronic, but their achievements also hasten the collapse of an already crumbling payroll-based insurance system.

Though the United States offers world-class, high-end care, it falls short badly on the basics – a distortion that worsens as more and more lower-wage families lose health insurance. Quality of health care, in fact, is only weakly correlated with life expectancy. It's no surprise that the 70,000 Andorrans – who are relatively wealthy, eat a Mediterranean diet, and live in a rugged section of the Pyrenees – live longer than Americans. But in the United States, the sharp drop in heart attack mortalities has measurably extended life expectancy, just as the disgraceful state of prenatal and perinatal care measurably pulls it down.

Cocreating Business's New Social Compact

Jeb Brugmann and C.K. Prahalad's article, "Cocreating Business's New Social Compact" (February 2007), effectively depicts the historical and contemporary trends in company-NGO partnerships. What's still needed is a stronger demarcation between corporate social responsibility (CSR) and pure business marketing. Most of the initiatives in company-NGO partnerships seem to be associated with the latter. The key differentiation between the two may be that vision drives a CSR activity, while business needs or compulsions usually drive a business initiative. Thus, the initiatives under CSR might not relate to the core business of the corporation undertaking them or be driven by either top- or bottom-line considerations.

As corporations have evolved, so have channel partners, NGOs, consumers, regulators, and markets, posing greater challenges for corporate growth. This development has prompted companies to look for new categories of consumers and potential customers, new formats for penetration of these categories, new products, and better understanding of the markets and potential customers in new territories.

Given the circumstances, it's not strange to find corporations relying on NGOs and other institutions working at the bottom of the economic pyramid. Increasing partnership with NGOs solves at least a couple of problems. Corporate image gets a boost because companies are seen as more responsible and humane, and corporations identify better and more economical avenues for growth, thanks to the expertise of – and the work done by – NGOs.

It remains to be seen what form these partnerships will ultimately take. Will an NGO increase in size and presence in enough countries that it can amass clout similar to the sway Wal-Mart holds over Unilever or Procter & Gamble? Will an NGO, under the growing influence of financially mighty corporations, be in a position to retain the identity and the original purpose for which it was formed? NGO autonomy could be at risk as corporations provide more and more funding earmarked for areas that will enhance their own profits – sometimes even to the point of acquiring the NGO.

As these partnerships evolve, it is important that we define CSR more clearly, to distinguish CSR initiatives from top- or bottom-line-driven initiatives with a noble delivery mechanism.

One important aspect that the article didn't cover was the emergence of various institutions, such as United Way, that facilitate the interface between companies and NGOs. Such entities play an important role in channeling the efforts of corporations in the right direction, and their role will only expand. The logic is that corpora-

tions have neither the expertise nor the time to check on the credibility and efficacy of the NGOs they work with. This emerging trend needs to be observed closely and keenly.

In India, corporations and NGOs have to walk hand in hand because of widespread poverty and extreme diversity. Thus, players like ITC are trying to span the whole sector's value chain by empowering and educating partners at various levels. Part of this effort has been accomplished by corporations directly rather than through intermediaries.

Although they have been proactive, Indian companies continue to face a far greater responsibility to grow while keeping CSR in mind than those based in more mature markets like the United States or the European Union. But there's a still long way to go, as the balance sheets for several big corporations demonstrate; contributions toward such causes remain shamefully low.

The company-NGO partnership trend is a reality and will only grow over time. As long as corporate objectives don't overwhelm the NGOs, and until a wall is erected between the two, partnerships can really act as a catalyst in unleashing sustainable and humane growth for the benefit of a broad range of stakeholders.

Gaurav Maleri

*Regional Manager,
Banks/National Distributors
Reliance Capital Asset Management
Mumbai*

Brugmann and Prahalad respond: In principle, we agree with Gaurav Maleri. Making clear distinctions between CSR activities and commercial partnerships is critical for the sustained legitimacy of both kinds of activities. Each must be managed according to very different standards.

Most recently, one of the Indian NGOs that we profiled asked the senior manager of a large company, with which the NGO was partnering, to be more explicit about whether the com-

pany considered their joint trial of a new medicine in a rural market to be a business, a CSR effort, or a goodwill-building activity. The manager's direct answer led to a complete reconception of the relationship.

Companies and NGOs are coevolving to keep pace with the development of liberalized markets. We expect that the outcome will be a new generation of scalable, market-based, social-sector organizations that are tailored to interface with and operate within the value chains of traditional companies, such as ACHIB in South Africa. These organizations will not replace the traditional NGO; they will be promoted, spun off by NGOs or company-NGO partnerships, and then managed according to distinct objectives and standards.

Maleri's observation about intermediary NGOs, like United Way and Ashoka, that play a certifying and facilitating role is correct. Their emergence indicates a highly segmented, structured social sector, much like the private sector. There is no archetypal NGO, only an increasing degree of specialization.

We do differ with Maleri on one important issue: the coevolving corporation. We find that many – not all – companies are finding increasing space for visionary social impact in their profit-making business mandates. Indeed, bottom-of-the-pyramid company-NGO tie-ups are often driven by both vision and business needs. The opportunity has always been there. External social-sector regulatory pressures, matched by internal employee and shareholder values, have simply shone a brighter light on it.

Anyone interested in further discussion can reach Jeb Brugmann at Jeb@Jebbrugmann.com and C.K. Prahalad at cpahalad@aol.com.

Reputation and Its Risks

We agree with the assertion in Robert G. Eccles, Scott C. Newquist, and Roland Schatz's article, "Reputation



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and Its Risks” (February 2007), that a strong, long-term, positive reputation in the market brings value to the brand and to the company as a whole. But we disagree that an organization must “land and remain on the public’s radar screen.” If a company’s core business is customer facing, it might make sense to stay in front of the consumer with favorable press. However, there are many companies that should pursue a contrasting strategy – remaining out of the press and diminishing the resources allocated toward reputation building. For example, a potential competitor that sees opportunity in uncontested space would probably prefer to remain relatively invisible and not alert any incumbents by announcing its plans in the media.

Even negative press can serve a company’s interest. Consider the way Steve Ballmer hedged publicly against analyst forecasts about Windows Vista sales rather than appear overly optimistic. Many times, less-than-favorable news that comes directly from the company helps drive and control its reputation.

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The Ethical Mind

I am deeply puzzled by Howard Gardner’s pronouncements about ethics in business in “The Ethical Mind” (March 2007). Like many educators around the world, I have followed and benefited from Gardner’s work on multiple intelligences, largely because he made us believe again in the importance and the good nature of human beings. Yet in this interview, oddly enough, Gardner conveys exactly the opposite sentiment – a deep mistrust in human beings in business. He goes so far as to say that “business is not – nor has it ever been – a profession,” because professions “develop over periods of

time and gradually establish a set of control mechanisms and sanctions for those who violate the code.” Clearly, for Gardner, controls and sanctions are mandates for people to perform ethically.

Yet business is a profession. As an academic discipline, it has accrued an extensive body of knowledge that in many instances is now leading change in other professions.

Ethics is derived from knowledge, personal values, internal organization, and self-discipline; the greatest obstacle for ethics is ignorance. Ethics is not imposed by external controls, nor can it be “set in the mind,” but it can be learned. That’s why high-quality education and educators are crucial for the formation of ethics in every discipline.

Maria-Teresa Lepeley

*President and CEO
Global Institute for Quality Education
Orlando, Florida*

Gardner responds: I was referring to the distinction between a field of work and an established profession. We know a great deal about sports, the arts, and politics, but none of these fields is considered a profession. A profession is an area of work for which one needs formal training, a license, and adherence to a code; if the code is violated, then one can be expelled. For example, law and medicine are prototypical professions. A person operating as a lawyer or a physician without the required training and certification will run afoul of the law. However, anyone can call herself a businessperson.

Of course, the decision to behave ethically, responsibly, and morally is an individual one. There are plenty of unethical lawyers, and many ethical ballplayers, actors, and school board members. But Maria-Teresa Lepeley misses the crucial point: The only obligations a businessperson has are to obey the law and to stay in business. The existence of 1,000 management programs – whether excellent or mediocre in quality – is irrelevant to my argument.

Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility

Michael E. Porter and Mark R. Kramer retell the story of Nestlé’s “Moga miracle” in “Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility” (December 2006). But the narrative is not complete until one traces the entire chain from producers to consumers.

Nestlé’s Moga plant has won global praise for improving the lives of poor Indian farmers. At the same time, the West is leading a major international boycott against the company on the grounds that the plant’s two main products (infant formula and weaning cereal) undermine infant health while stretching the modest incomes of Indian families who can ill afford such Western luxuries. The authors touch on the irony but say little else about the corporate schizophrenia that can result from CSR. As communications manager for Nestlé India in the 1990s, I had to deal with this schizophrenia.

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Porter and Kramer respond: Nestlé India’s experience highlights two important challenges facing CSR. First, exemplary social impact in one business or one part of the value chain does not offset either perceived or actual poor performance in another. For example, BP overlooked serious safety issues that resulted in a fatal explosion in Texas and the temporary shutdown of the Alaska pipeline, both of which significantly damaged BP’s credibility and reputation, despite its global leadership on climate change for more than a decade. The lesson: What’s needed is systematic attention to the social impact across the value chain – not reliance on a few signature programs.

Nestlé’s infant formula problem also raises a second, more troubling, con-

cern. The controversy dates back more than 30 years, when mothers mixed formula with contaminated water, leading to serious illness in babies. During the past couple of decades, Nestlé has gone to great lengths to abide by the World Health Organization's International Code of Marketing of Breast-Milk Substitutes, and the calls for boycotts have long since ended. Nevertheless, Nestlé continues to be dogged by the matter. Without a public education campaign to communicate its actions, Nestlé has left itself open to criticism from misinformed (as well as opportunistic) activists. Companies like Nestlé should surely be held accountable, but NGOs and other social commentators short-change society when they pursue win-lose attacks on the private sector rather than find and pursuing the shared value of social issues that we describe.

Understanding Customer Experience

In "Understanding Customer Experience" (February 2007), Christopher Meyer and Andre Schwager demonstrate very clearly the importance of monitoring customer experience in order to improve it. The authors make some excellent points about strategies to achieve that goal. However, they omit a vital point in their summary of how to obtain the right information from customers: You can gain immense value by listening to how your customers interact with you. That is when customers' sentiments and feelings are at their most raw and real and, therefore, will offer the greatest potential benefit to an organization – though only when acted upon appropriately.

Listening is one of the most underrated tools for obtaining information and, ultimately, assessing customer experience. The challenge is often bringing data together in a cohesive, sensible, and practical repository. Telephone, e-mail, and Web contact, as well as so-called new media like blogs and pod-

casts, represent fantastic combinations of structured and unstructured data.

Speech analytics software is becoming a commercially viable tool for businesses that want to raise the bar in customer service and customer experience. While often allied with call recording or other customer touch points such as the Web or e-mail, speech analytics is particularly prevalent in contact centers. Customer interactions are recorded and then analyzed in tandem by specialized software that "listens" and categorizes any of an infinite range of criteria or circumstances that the user specifies. Used effectively, it can help organizations identify shortfalls in customer service representative training, operational and product-related issues, reasons for callbacks and product returns, and frequently asked questions.

Listening takes many forms, but if organizations are to realize the maximum benefit from any strategy for monitoring and tracking customer experience, listening has to be at the hub.

David Parcell

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Meyer and Schwager respond: We completely agree with David Parcell that empathetic and active listening are essential to truly understand your customers' experience. New technologies like speech analytics software are constantly evolving and should be employed whenever and wherever they are useful. Our experience, however, is that technology vendor claims often surpass customers' reported benefits.

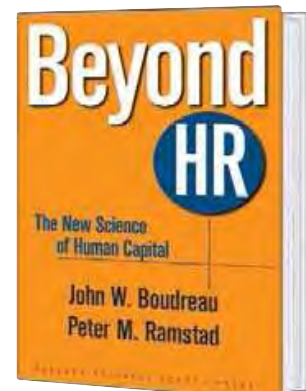
Few firms fail to improve customer experience because they lack technology or data; they are too often drowning in both. Perhaps there should be a rule that for every new collection, analysis, and distribution technology adopted, leaders must ensure there is equal investment in transforming what's learned into an improved customer experience.

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Harvard Business Review

Executive Summaries

JUNE 2007



“We were born with opposable minds, which allow us to hold two conflicting ideas in constructive, almost dialectic tension. We can use that tension to think our way toward new, superior ideas.”

—page 60

COVER STORY

60 | How Successful Leaders Think

Roger Martin

In search of lessons to apply in our own careers, we often try to emulate what effective leaders do. Roger Martin says this focus is misplaced, because moves that work in one context may make little sense in another. A more productive, though more difficult, approach is to look at how such leaders think. After extensive interviews with more than 50 of them, the author discovered that most are integrative thinkers – that is, they can hold in their heads two opposing ideas at once and then come up with a new idea that contains elements of each but is superior to both.

Martin argues that this process of consideration and synthesis (rather than superior strategy or faultless execution) is the hallmark of exceptional businesses and the people who run them. To support his point, he examines how integrative thinkers approach the four stages of decision making to craft superior solutions. First, when determining which features of a problem are salient, they go beyond those that are obviously relevant. Second, they consider multidirectional and nonlinear relationships, not just linear ones. Third, they see the whole problem and how the parts fit together. Fourth, they creatively resolve the tensions between opposing ideas and generate new alternatives.

According to the author, integrative thinking is an ability everyone can hone. He points to several examples of business leaders who have done so, such as Bob Young, cofounder and former CEO of Red Hat, the dominant distributor of Linux open-source software. Young recognized from the beginning that he didn't have to choose between the two prevailing software business models. Inspired by both, he forged an innovative third way, creating a service offering for corporate customers that placed Red Hat on a path to tremendous success.

Reprint R0706C

FORETHOUGHT

20 | If You Love Your Information, Set It Free Organizations that fear sharing their data with aggregators might be surprised to learn they can benefit from letting other firms disseminate their information online. **Reprint F0706A**

Which Levers Boost ROI? CEOs looking for ways to improve ROI should examine the practices of similar companies in other industries. **Reprint F0706B**

The Wealth of African Nations

Despite Africa's regional poverty, the continent's gross national income per capita is greater than India's. That represents a huge potential market for enterprises worldwide. **Reprint F0706C**

Reconcilable Differences If Marketing and Finance can learn to get along, both can advance their agendas. **Reprint F0706D**

Employees Get an Earful Portable media players are helping employees make productive use of their downtime, as businesses learn how to train people via podcast. **Reprint F0706E**

Help Newly Hired Executives Adapt Quickly Often executives who are hired from outside a firm fail because they can't fit in with its culture. Here's how to help them avoid missteps. **Reprint F0706F**

Set Up to Fail Most organizations bend over backward to avoid failure. They shouldn't, says economist Paul Ormerod. History shows that failure and success are inherently random, so firms should innovate and adapt. **Reprint F0706G**

To Thine Own Staff Be Agreeable

Studies show that the more staffers' opinions of a company outshine customers', the greater that company's sales growth will be. **Reprint F0706H**

Work with Me Should service firms show clients their inner workings or keep their cards close? Recent research touts the benefits of letting customers know how firms operate. **Reprint F0706J**

Reviews Featuring *Japan Rising: The Resurgence of Japanese Power and Purpose*, by Kenneth B. Pyle.

HBR CASE STUDY

37 | We Googled You

Diane Coutu

As the CEO of Hathaway Jones, an American luxury apparel retailer, Fred Westen has spent the past four years struggling to revamp his company's stodgy image and boost flagging sales. He's just announced an ambitious plan to elbow in on China's fast-growing luxury goods market when he gets a call from an old prep school friend. Fred agrees to meet his friend's daughter, Mimi Brewster, to see whether she might be able to head up the company's flagship store in Shanghai.

Fred is impressed by Mimi's CV, and the interview goes off without a hitch, but a routine Google search turns up information about her that could affect the company's performance in China. News stories and photos reveal that when Mimi was fresh out of college, she'd participated in nonviolent but vocal demonstrations – including one in front of China's San Francisco consulate – against the World Trade Organization.

As the vice president of HR urges caution, Fred ponders hiring practices in the digital age. He knows that nothing is secret anymore – especially among younger people, who brazenly post the most intimate details of their lives for the world to see. If he hires Mimi, and her past conduct becomes widely known, his company's expansion overseas could be set back. But rising stars like Mimi don't walk in the door every day. Should Fred hire her despite her online history?

Commenting on this fictional case study are John G. Palfrey, Jr., a professor and the executive director of the Berkman Center for Internet & Society at Harvard Law School; Jeffrey A. Joerres, the CEO of Manpower; danah m. boyd, a doctoral candidate at the University of California, Berkeley, and a corporate adviser; and Michael Fertik, the CEO of ReputationDefender.

Reprint R0706A

Reprint Case only R0706X

Reprint Commentary only R0706Z

49 | Saving the Internet

Jonathan Zittrain

The Internet goose has laid countless golden eggs, along with a growing number of rotten ones. But it's the rotten ones that now tempt commercial, governmental, and consumer interests to threaten the Internet's uniquely creative power. The expediently selected, almost accidentally generative properties of the Internet – its technical openness, ease of access and mastery, and adaptability – have combined, especially when coupled with those of the PC, to produce an unsurpassed environment for innovative experiment. Those same properties, however, also make the Internet hospitable to various forms of wickedness: hacking, porn, spam, fraud, theft, predation, and attacks on the network itself. As these undesirable phenomena proliferate, business, government, and many users find common cause for locking down Internet and PC architecture in the interests of security and order.

PC and Internet security vulnerabilities are a legitimate menace. However, the most likely reactions – if they are not forestalled – will be at least as unfortunate as the security problems themselves. Consider the growing profusion of “tethered appliances” – devices whose functions cannot readily be altered by their owners (think TiVo). Such appliances take Internet innovations and wrap them up in a neat, easy-to-use package, which is good – but only if the Internet and PC can remain sufficiently in the center of the digital ecosystem to produce the next round of innovations and to generate competition. People buy these devices for their convenience or functionality and may appreciate the fact that they are safer to use (they limit the damage users can do through ignorance or carelessness). But the risk is that users, by migrating to such appliances, will unwittingly trade away the future benefits of generativity – a loss that will go unappreciated even as innovation tapers off.

Reprint R0706B

68 | Make Your Company a Talent Factory

Douglas A. Ready and Jay A. Conger

Despite the great sums of money companies dedicate to talent management systems, many still struggle to fill key positions – limiting their potential for growth in the process. Virtually all the human resource executives in the authors' 2005 survey of 40 companies around the world said that their pipeline of high-potential employees was insufficient to fill strategic management roles.

The survey revealed two primary reasons for this. First, the formal procedures for identifying and developing next-generation leaders have fallen out of sync with what companies need to grow or expand into new markets. To save money, for example, some firms have eliminated positions that would expose high-potential employees to a broad range of problems, thus sacrificing future development opportunities that would far outweigh any initial savings from the job cuts. Second, HR executives often have trouble keeping top leaders' attention on talent issues, despite those leaders' vigorous assertions that obtaining and keeping the best people is a major priority. If passion for that objective doesn't start at the top and infuse the culture, say the authors, talent management can easily deteriorate into the management of bureaucratic routines.

Yet there are companies that can face the future with confidence. These firms don't just manage talent, they build talent factories. The authors describe the experiences of two such corporations – consumer products icon Procter & Gamble and financial services giant HSBC Group – that figured out how to develop and retain key employees and fill positions quickly to meet evolving business needs. Though each company approached talent management from a different direction, they both maintained a twin focus on *functionality* (rigorous talent processes that support strategic and cultural objectives) and *vitality* (management's emotional commitment, which is reflected in daily actions).

Reprint R0706D

78 | Companies and the Customers Who Hate Them

Gail McGovern and Youngme Moon

Why do companies bind customers with contracts, bleed them with fees, and baffle them with fine print? Because bewildered customers, who often make bad purchasing decisions, can be highly profitable. Most firms that profit from customers' confusion are on a slippery slope. Over time, their customer-centric strategies for delivering value have evolved into company-centric strategies for extracting it. Not surprisingly, when a rival comes along with a friendlier alternative, customers defect.

Adversarial value-extracting strategies are common in such industries as cell phone service, retail banking, and health clubs. Overly complex product and pricing options, for example, may have been designed to serve various segments. But in fact they take advantage of how difficult it is for customers to predict their needs (such as how many cell phone minutes they'll use each month) and make it hard for them to choose the right product. Similarly, penalties and fees, which may have been instituted to offset the costs of undesirable customer behavior, like bouncing checks, turn out to be very profitable. As a result, companies have no incentive to help customers avoid them.

Tactics like these generate bad publicity and fuel customer defections, creating opportunities for competitors. Virgin Mobile USA, for example, has lured millions of angry cell phone customers away from the incumbents by offering a straightforward plan with no hidden fees, no time-of-day restrictions, and no contracts. ING Direct, now the fourth-largest thrift bank in the United States, offers accounts with no fees, no tiered interest rates, and no minimums.

In industries where squeezing value from customers is commonplace, companies that dismantle these harmful practices and design a transparent, value-creating offer can head off customer retaliation and spur rapid growth.

Reprint R0706E

88 | Scorched Earth: Will Environmental Risks in China Overwhelm Its Opportunities?

Elizabeth Economy and Kenneth Lieberthal

Of all the risks of doing business in China, the greatest is the threat posed by environmental degradation. And yet it's barely discussed in corporate boardrooms.

This is a serious mistake. Multinationals may be more concerned with intellectual property rights violations, corruption, and potential political instability, but the Chinese government, NGOs, and the Chinese press have been focused squarely on the country's energy shortages, soil erosion, lack of water, and pollution problems, which are so severe they might constrain GDP growth. What's more, the Chinese expect the international community to take the lead in environmental protection. If that doesn't happen, multinationals face clear risks to their operations, their workers' health, and their reputations.

In factoring environmental issues into their China strategies, foreign firms need to be both defensive, taking steps to reduce harm, and proactive, investing in environmental protection efforts. Coca-Cola, for example, installed state-of-the-art bottling plants in China that operate with no net loss of water resources. Mattel increased the safety of its Barbie-manufacturing process to protect workers' health. With its efforts to reduce greenhouse gas emissions, GE is shrinking its environmental footprint in China; more proactively, GE is working closely with the Chinese government and scientists to develop clean coal, water purification, and water reuse technologies.

In considering the value of such efforts, companies can not only factor in reduced risk but also increased opportunity, as they use innovations designed for the Chinese market in the rest of the world. The bottom line: How well multinationals address environmental issues in China will affect their fortunes in one of the most important economies in the world.

Reprint R0706F, HBR Article Collection "China Tomorrow, Prospects and Perils, 3rd Edition" 2129

98 | The New Deal at the Top

Yves L. Doz and Mikko Kosonen

What makes a company strategically agile – able to alter its strategies and business models rapidly in response to major changes in its market space, and to do so repeatedly without major trauma? Three years of in-depth case research on a dozen large companies worldwide showed the authors that one key factor is a new leadership model at the top.

Senior executives at agile companies assume collective rather than individual responsibility for results. They build interdependencies among units and divisions, motivating themselves to engage with one another, and carefully manage their dealings to promote collaboration that is frequent, intense, informal, open, and focused on shared issues and the long term. Challenges to conventional thinking are encouraged.

This is the new deal, and it's not easy to strike, because it requires executives to act in ways that are far from comfortable. After all, the corporate ladder at most firms favors independent types with a deep need for power and autonomy. At executive meetings, disagreement is suppressed or expressed passive-aggressively, eroding any real sense of belonging to a team. Switching to the new deal almost always requires a huge shift in the company's culture, values, and norms of interaction.

The authors describe three approaches to making the shift: Executives can be given formal responsibility not for a business unit but for different stages in the company's value chain. This worked well for SAP, which has a relatively focused business portfolio. When a company's portfolio is less uniform, like Nokia's, business and functional units can be organized to crisscross on a matrix. And when a company is widely diverse, like easyGroup, it can emphasize the learning opportunities that units with common business models may share.

Reprint R0706G

109 | A Buyer's Guide to the Innovation Bazaar

Satish Nambisan and Mohanbir Sawhney

Companies seeking new ideas or product concepts from outside sources may find the "innovation bazaar," with its wide array of choices and methods of acquiring them, a confusing, chaotic place. Nambisan and Sawhney have crafted a conceptual guide for managers who understand the importance of going outside their firms for innovation but are uncertain about how to do it.

The authors' "external sourcing continuum" shows at a glance how shopping for, say, raw ideas compares with shopping for market-ready products in terms of cost, risk, multiplicity of options, and speed of commercialization. Raw ideas, whether acquired directly from the inventor or through a patent broker, licensing agent, or some other intermediary, tend to be low cost but high risk and take a long time to bring to market. Market-ready products, often acquired as stand-alone businesses through a venture capitalist or business incubator, are more expensive and narrow one's choices, but they can be launched quickly and with less risk.

Between these two approaches lies a third, facilitated by the "innovation capitalist." This new kind of intermediary provides client companies with access to a broad range of innovative product or technology ideas that are nearly market ready, thereby mitigating early-stage risks and lowering the time to market without significantly increasing acquisition costs.

The authors compare the advantages and disadvantages of using intermediaries associated with the three approaches and provide a checklist of factors to consider when placing your company on the external sourcing continuum. If you've been oriented toward one end of the continuum or the other, you can increase your options and your flexibility by expanding into the middle.

Reprint R0706H, HBR Article Collection "Innovating from the Outside In, 2nd Edition" 2130

121 | The Innovation Value Chain

Morten T. Hansen and Julian Birkinshaw

The challenges of coming up with fresh ideas and realizing profits from them are different for every company. One firm may excel at finding good ideas but may have weak systems for bringing them to market. Another organization may have a terrific process for funding and rolling out new products and services but a shortage of concepts to develop.

In this article, Hansen and Birkinshaw caution executives against using the latest and greatest innovation approaches and tools without understanding the unique deficiencies in their companies' innovation systems. They offer a framework for evaluating innovation performance: the *innovation value chain*. It comprises the three main phases of innovation (idea generation, conversion, and diffusion) as well as the critical activities performed during those phases (looking for ideas inside your unit; looking for them in other units; looking for them externally; selecting ideas; funding them; and promoting and spreading ideas companywide). Using this framework, managers get an end-to-end view of their innovation efforts. They can pinpoint their weakest links and tailor innovation best practices appropriately to strengthen those links.

Companies typically succumb to one of three broad "weakest-link" scenarios. They are idea poor, conversion poor, or diffusion poor. The article looks at the ways smart companies – including Intuit, P&G, Sara Lee, Shell, and Siemens – modify the best innovation practices and apply them to address those organizations' individual needs and flaws.

The authors warn that adopting the chain-based view of innovation requires new measures of what can be delivered by each link in the chain. The approach also entails new roles for employees – "external scouts" and "internal evangelists," for example. Indeed, in their search for new hires, companies should seek out those candidates who can help address particular weaknesses in the innovation value chain.

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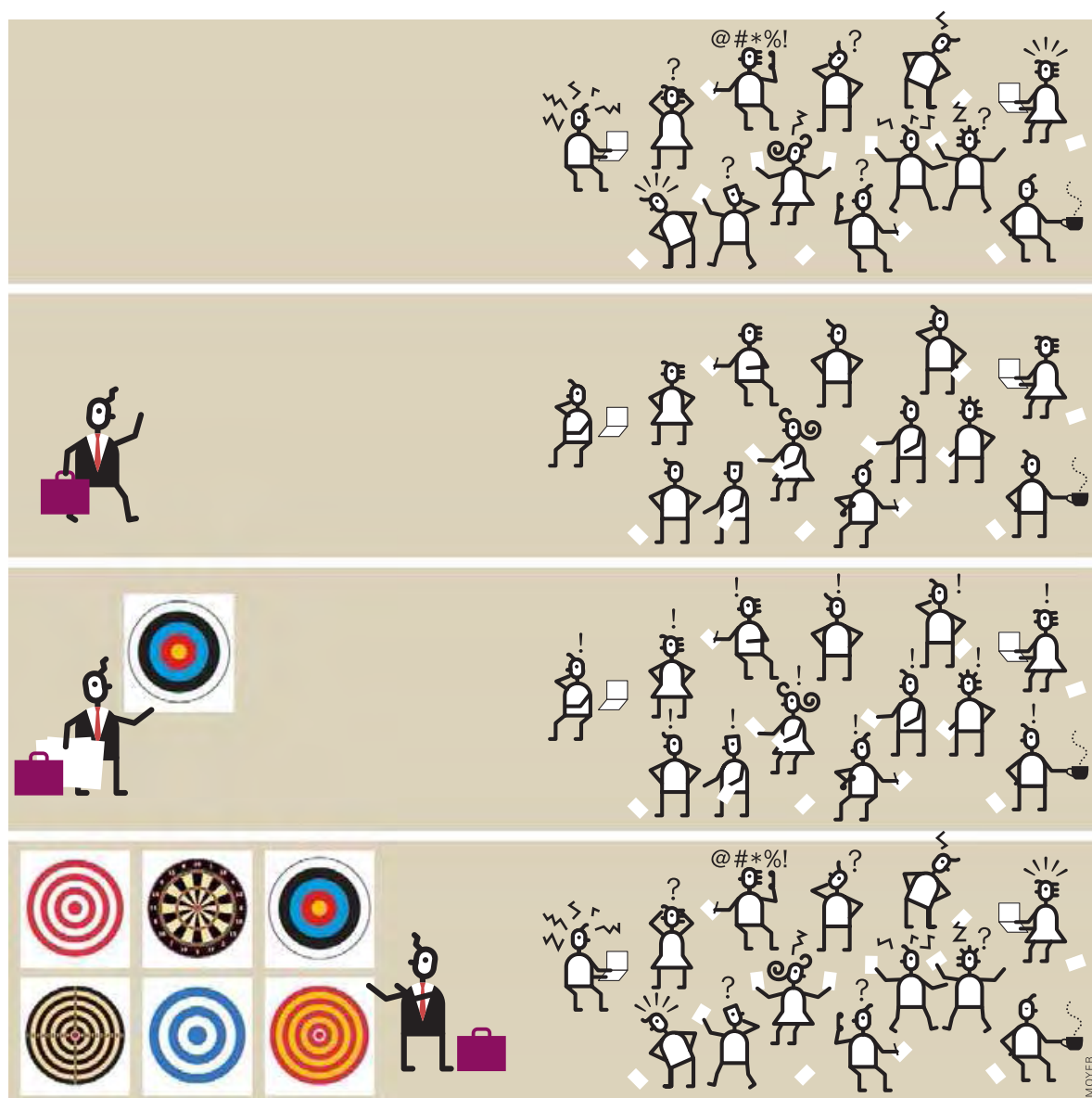
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Objective Selection

SHARING TOO MANY GOALS with your people is the same as sharing no goals. Energy, enthusiasm, and attention all dissipate when they are spread too widely. Think of peanut butter: The more you spread it, the thinner it gets. It's tempting to load up the wish list with lots of ambitious aims, but the results will inevitably be disappointing.

Rather, choose a single, clearly articulated objective. This may embody your organization's central purpose. In *Made to Stick*, Chip Heath and Dan Heath cite the "commander's intent," a crisp, plain-talk statement about the desired result of a military maneuver that discards "a lot of great insights in order to let the most important insight shine." Or the goal may be relatively narrow in scope – say, meeting a higher quality standard for a single product.

Broad or narrow, if it is well-defined, measurable, and urgent, as Robert H. Schaffer says in "Demand Better Results – and Get Them" (HBR November–December 1974), it can galvanize an organization, "generating the feeling that achievement of the goal is imperative, not merely desirable."

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